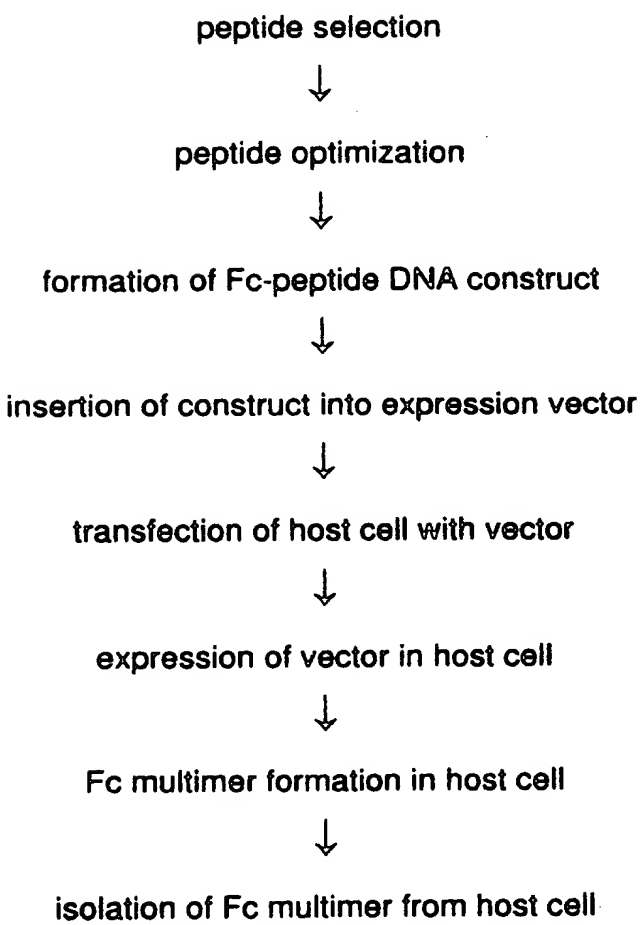
FIG.
CLASS SUBCLASS
DRAFTSMAN

FIG. 1



APPROVED O.G. FIG.
CLASS SUBCLASS
DRAFTSMAN

FIG. 2A

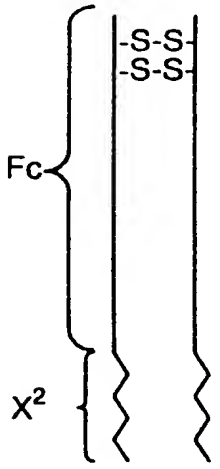


FIG. 2B

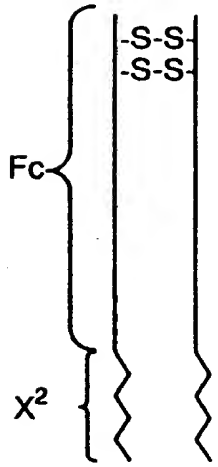


FIG. 2C

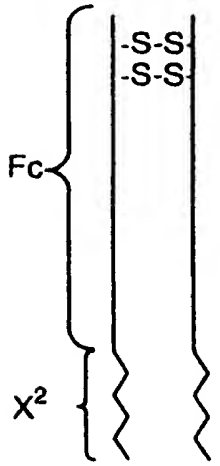


FIG. 2D

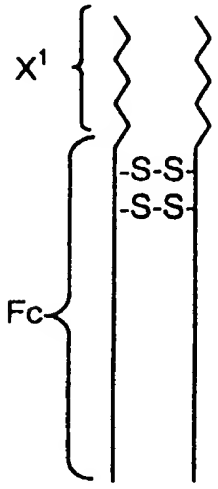


FIG. 2E

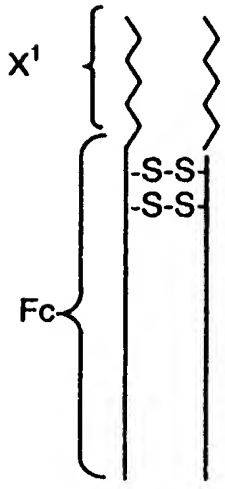


FIG. 2F

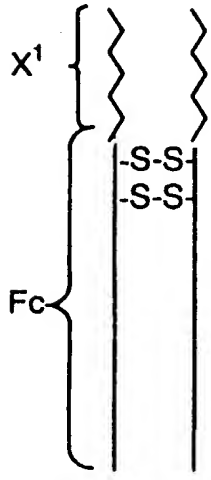


FIG.
SUBCLASS
DRAFTSMAN

FIG. 3A

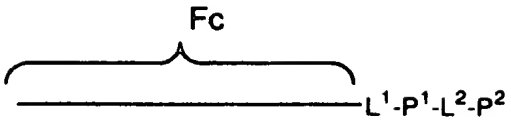


FIG. 3B

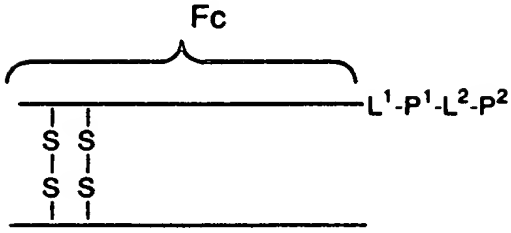


FIG. 3C

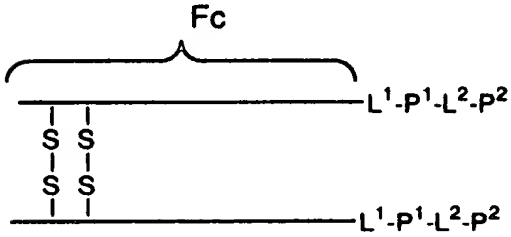
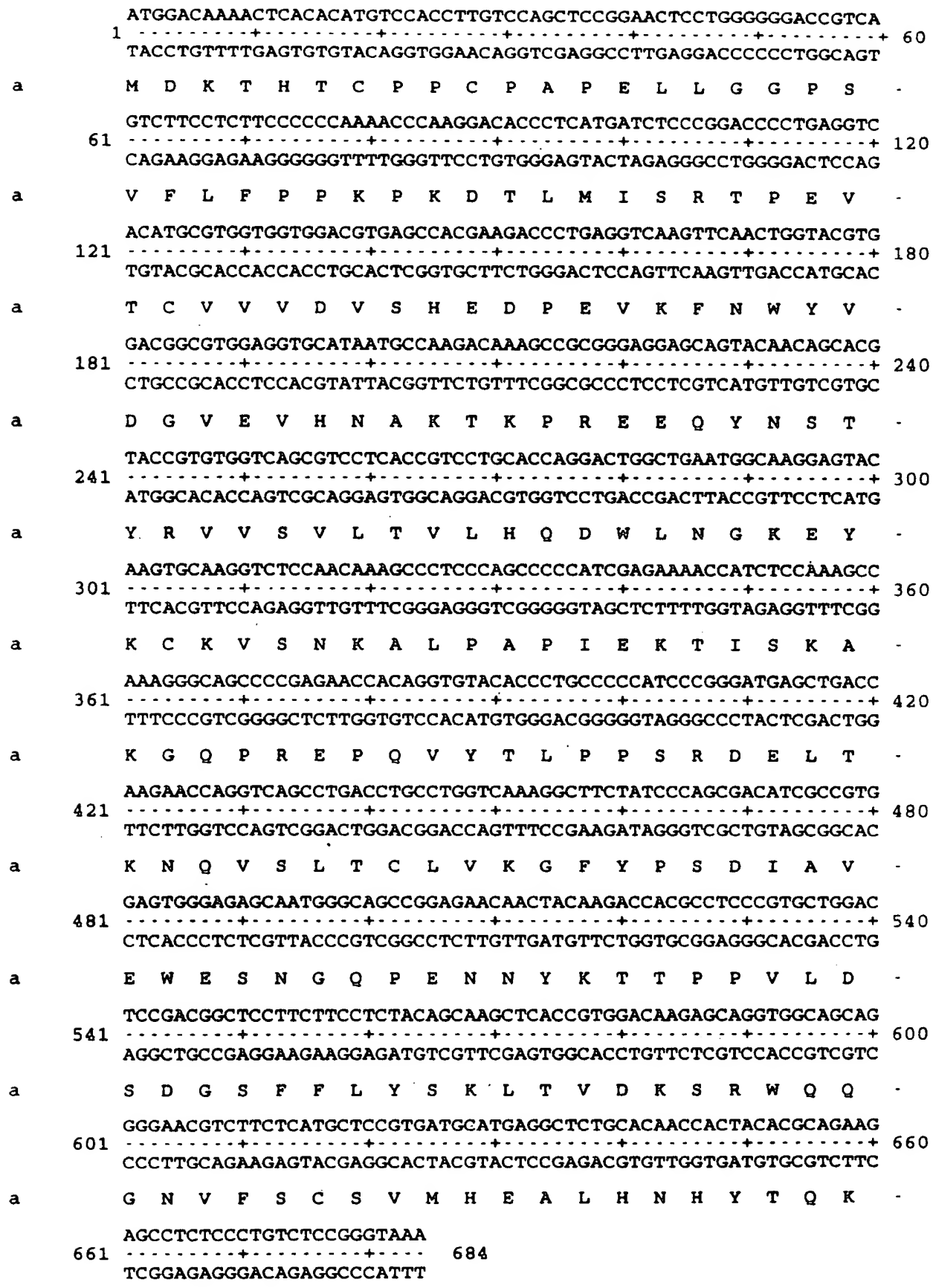


FIG. SUBCLASS

FIG. 4



SUBCLASS

FIG. 5

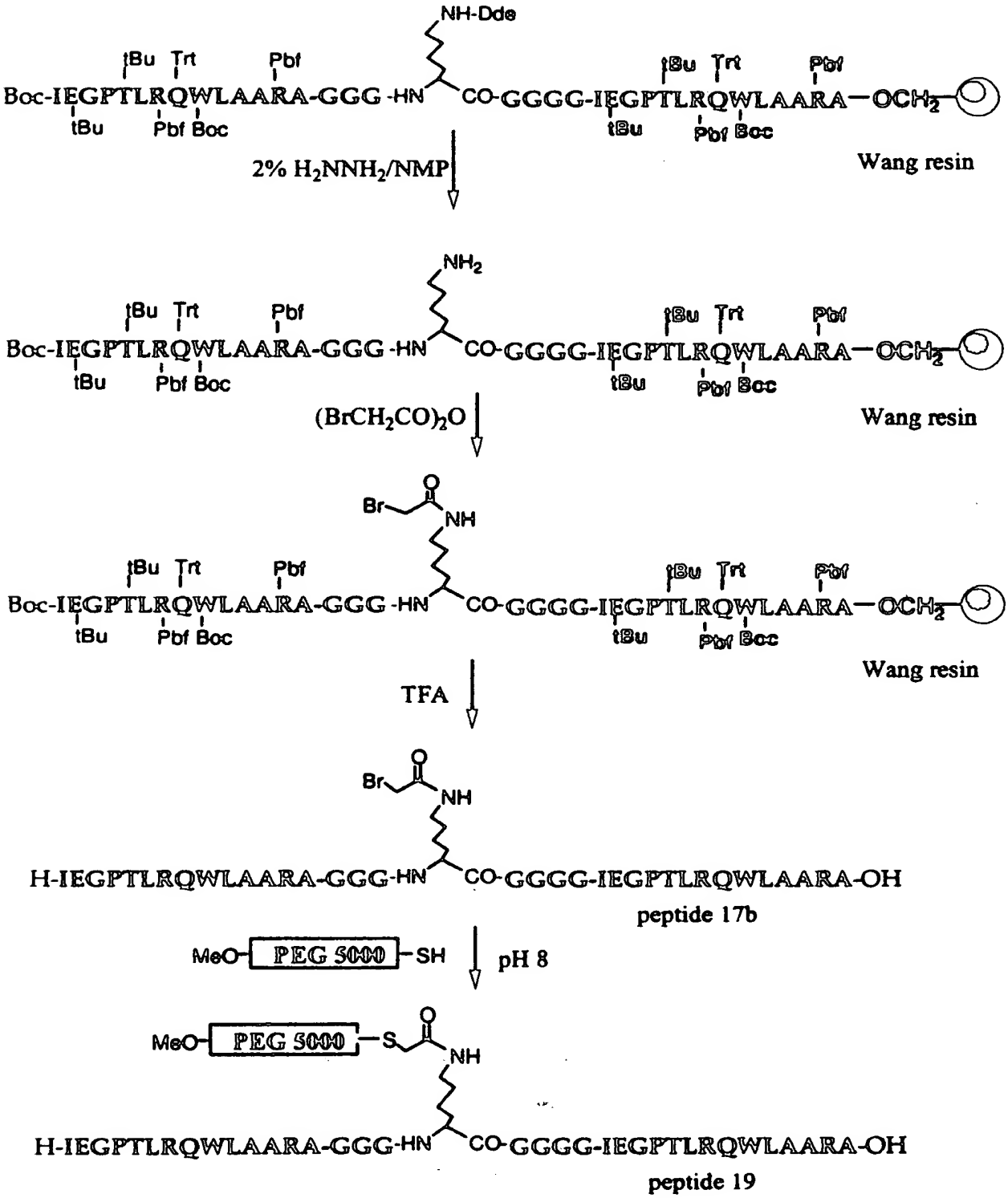
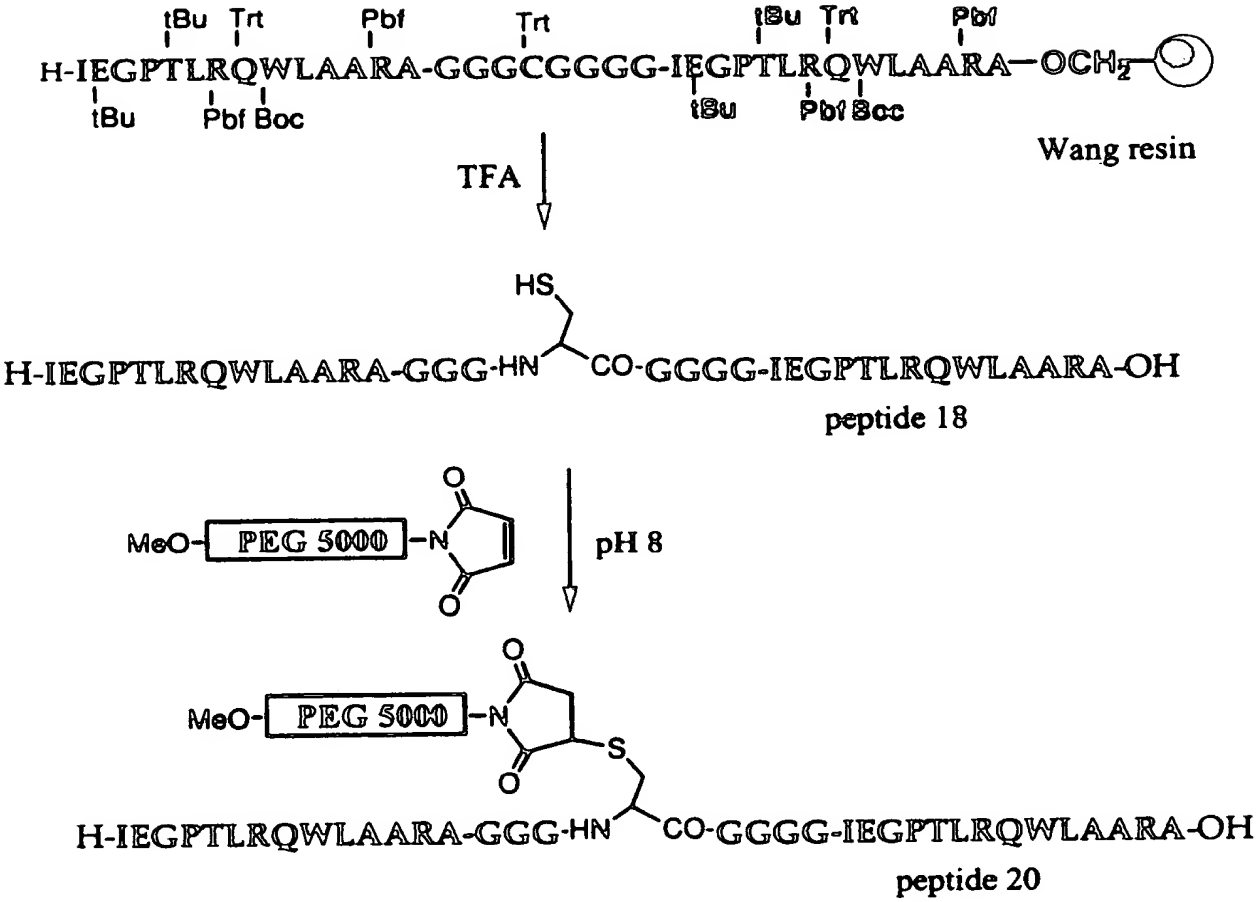


FIG. SUBCLASS

FIG. 6



APP... FIG. ...
SUBCLASS
DRAFTSM...

FIG. 7

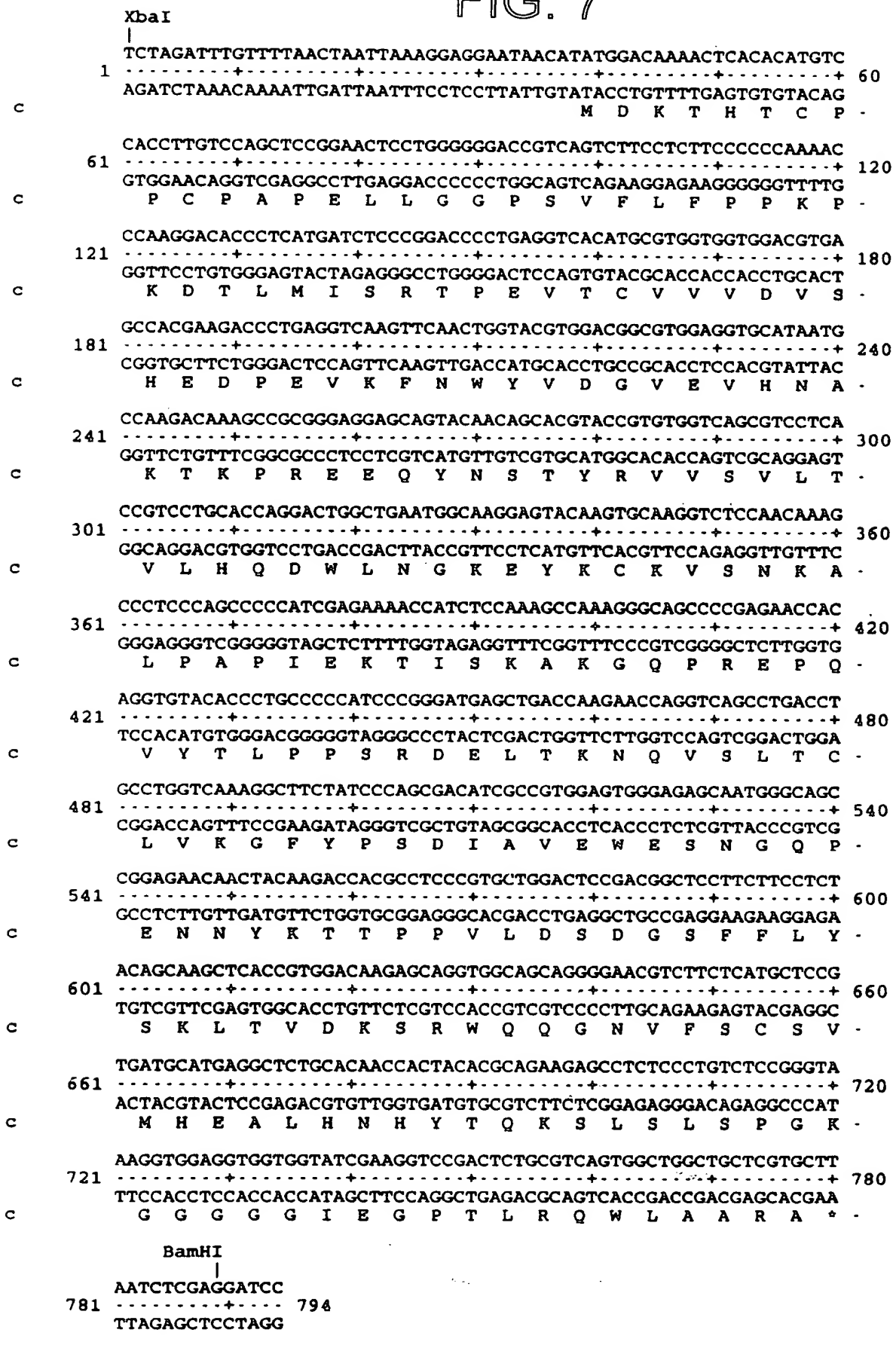


FIG. SUBCLASS

FIG. 8

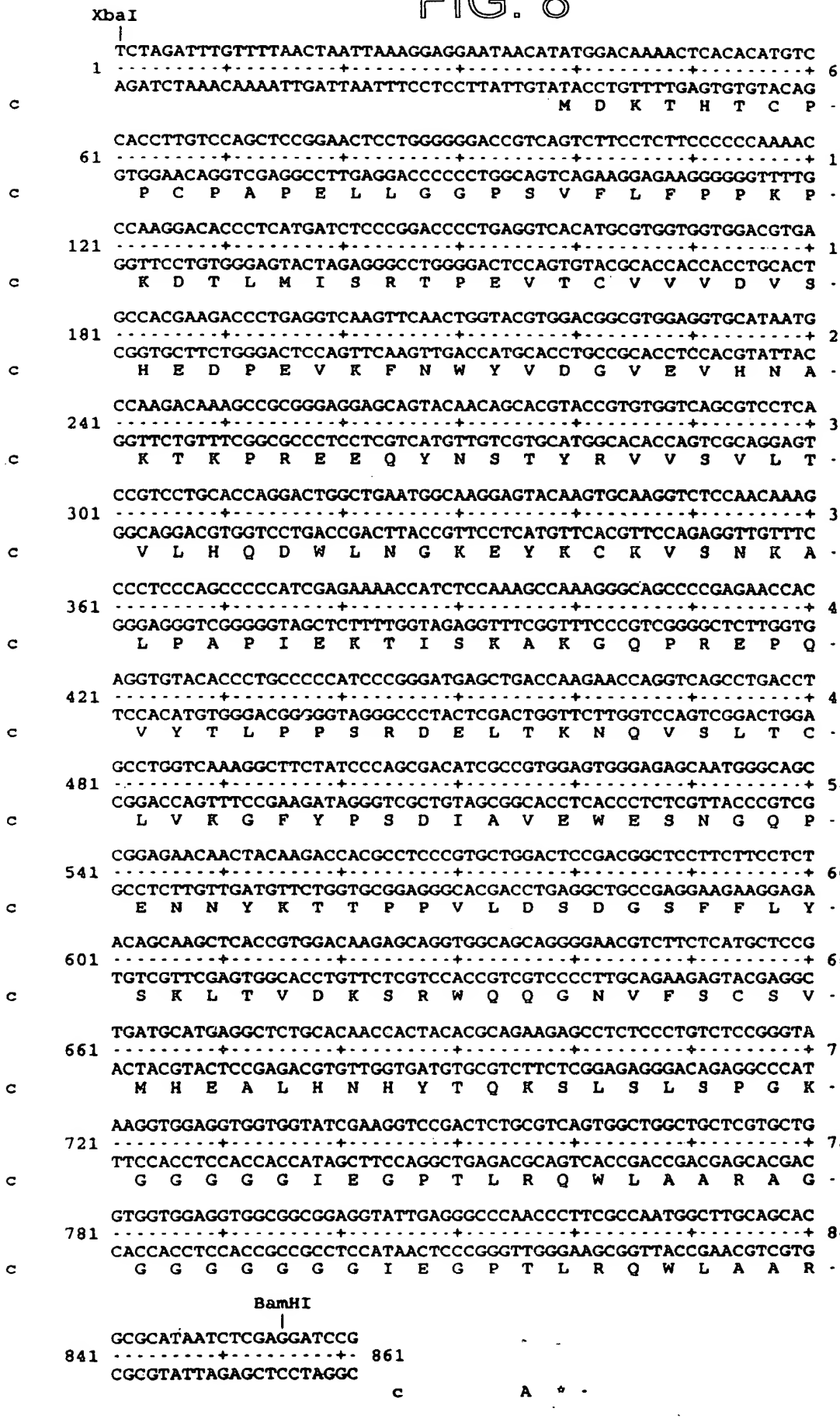


FIG. SS SUBCLASS DRAFTSMAN

FIG. 9

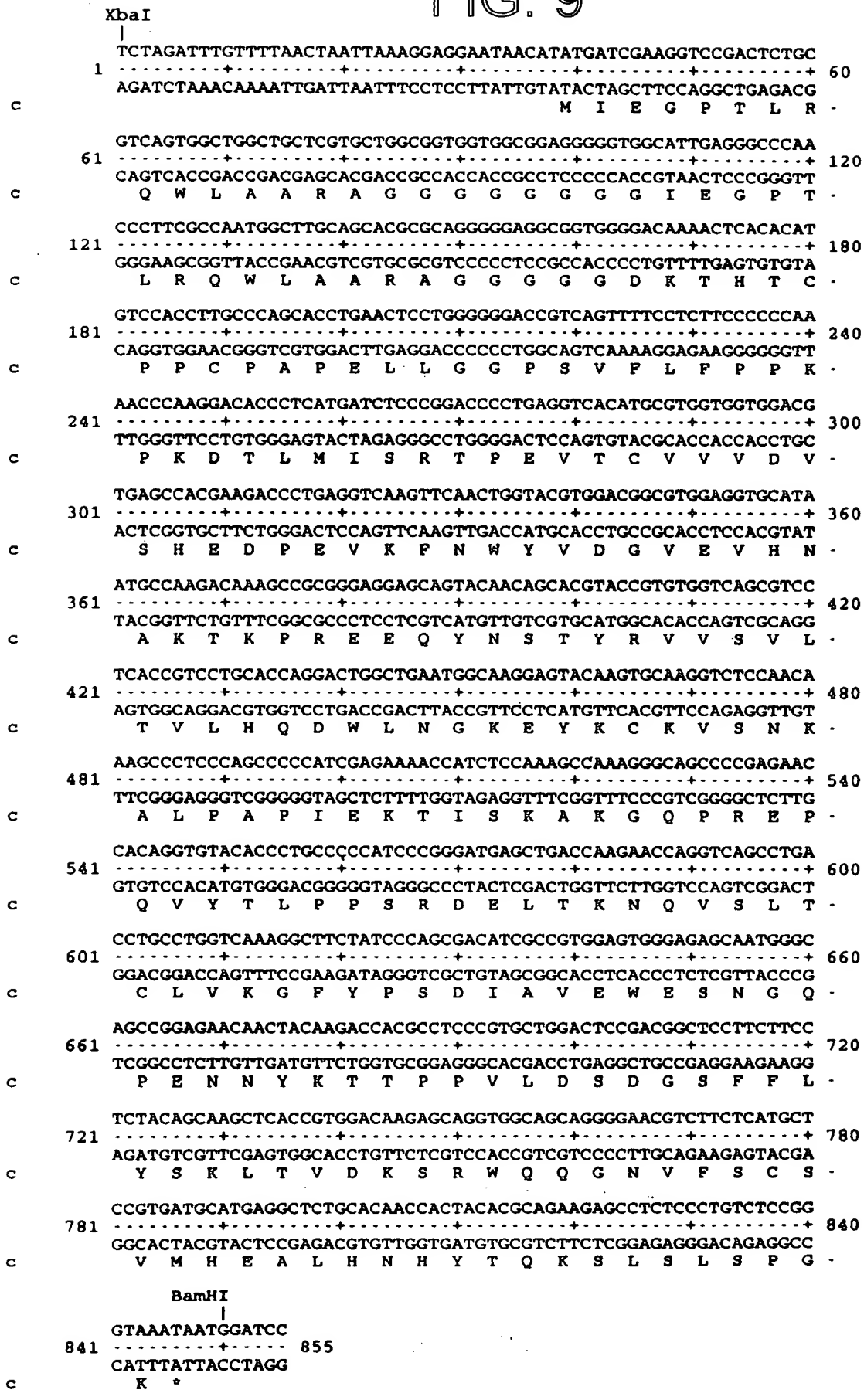


FIG. SUBCLASS

FIG. 10

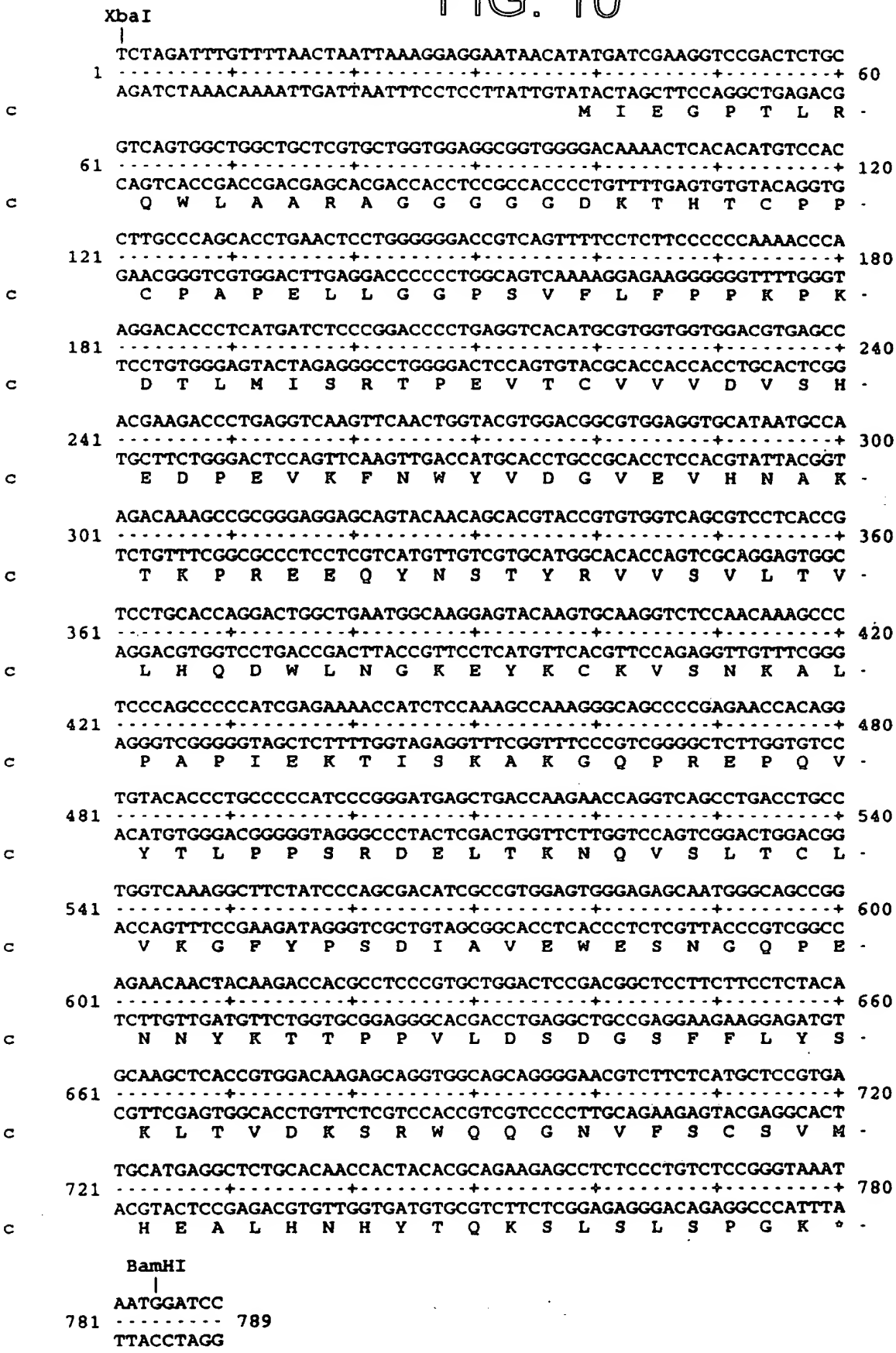
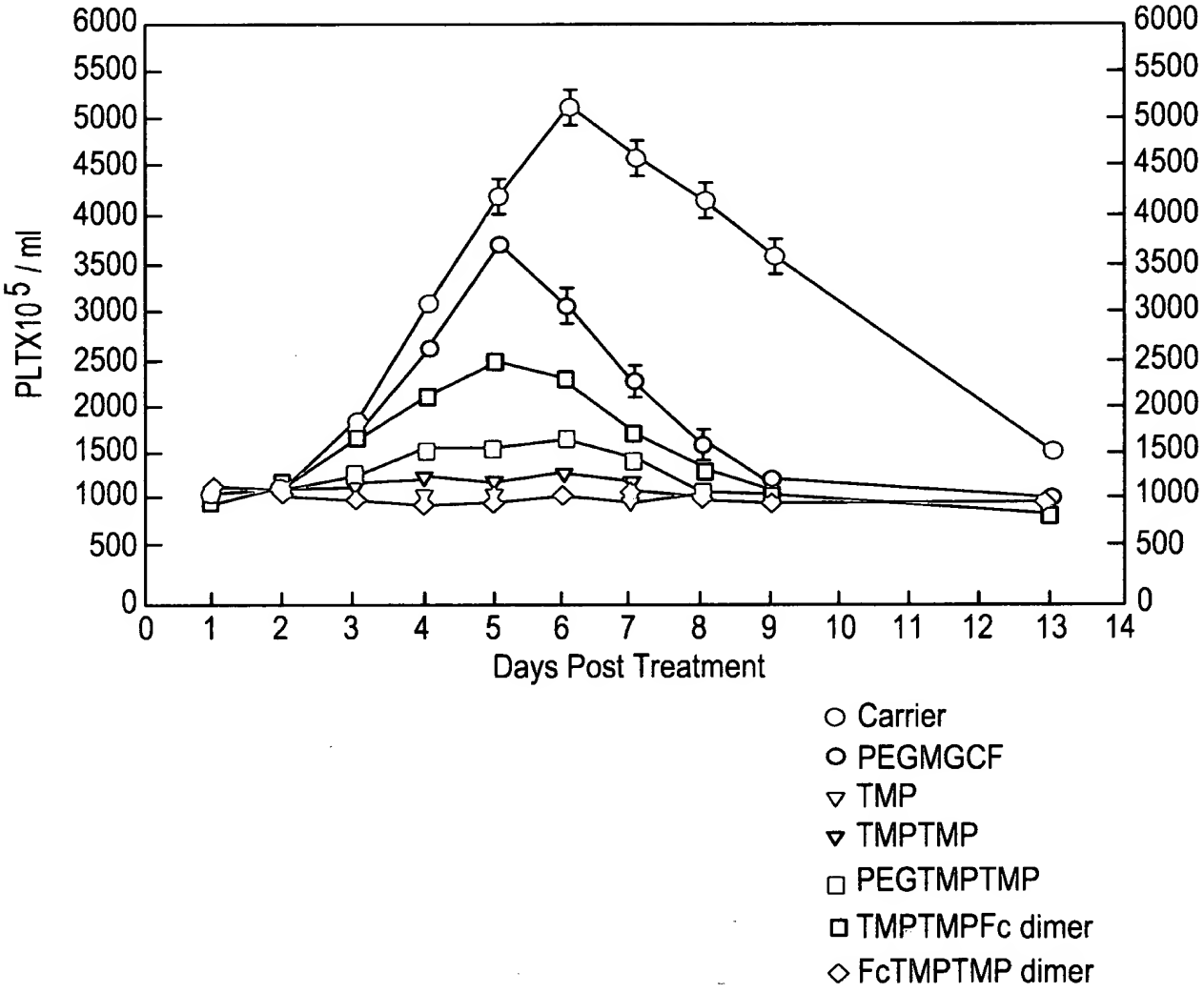


FIG.
SUBCLASS
DRAFTSP

FIG.11



AFF FIG.
SUBCLASS
DRAFTSMAN

FIG.12

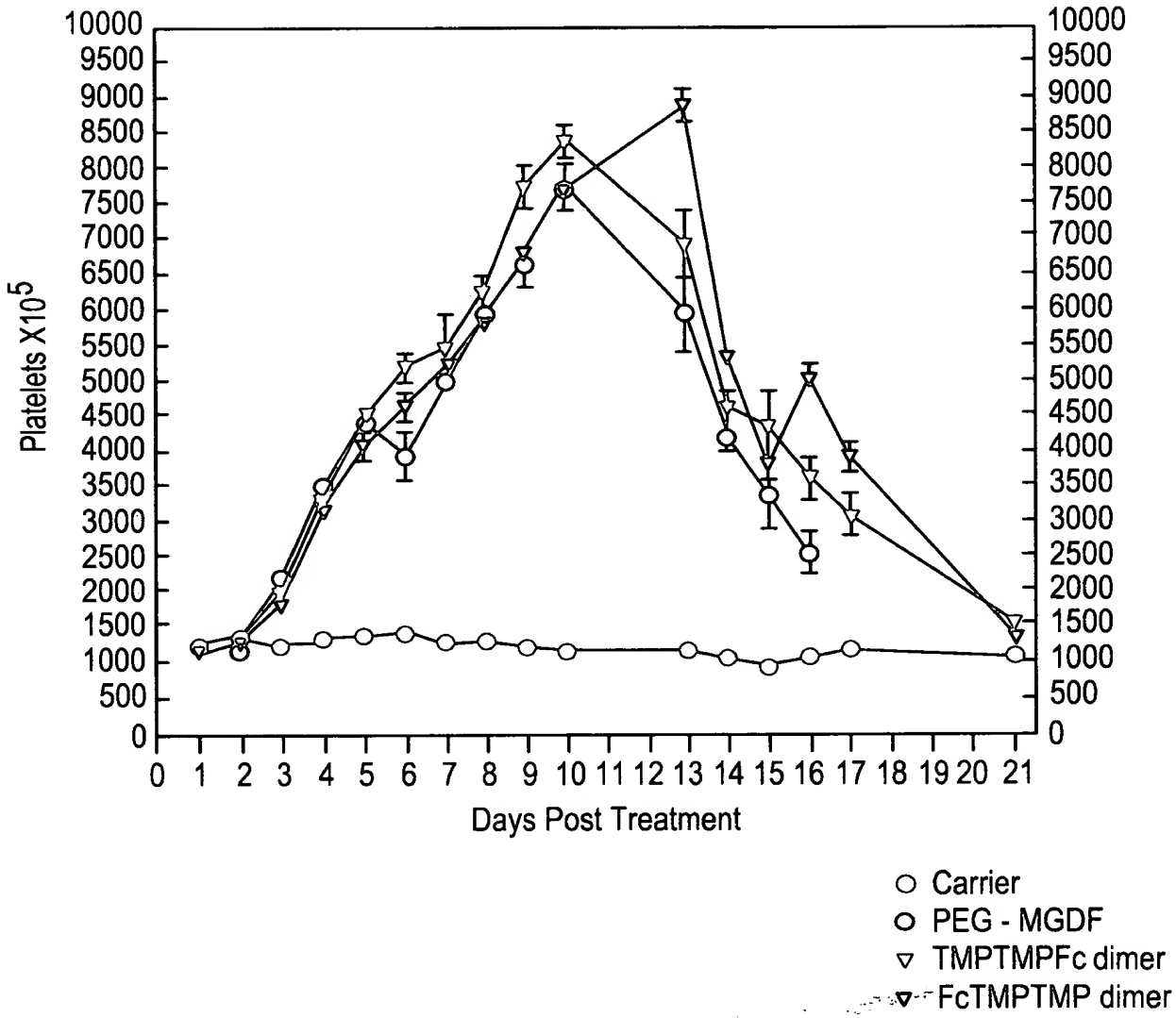


FIG. SUBCLASS

FIG. 13

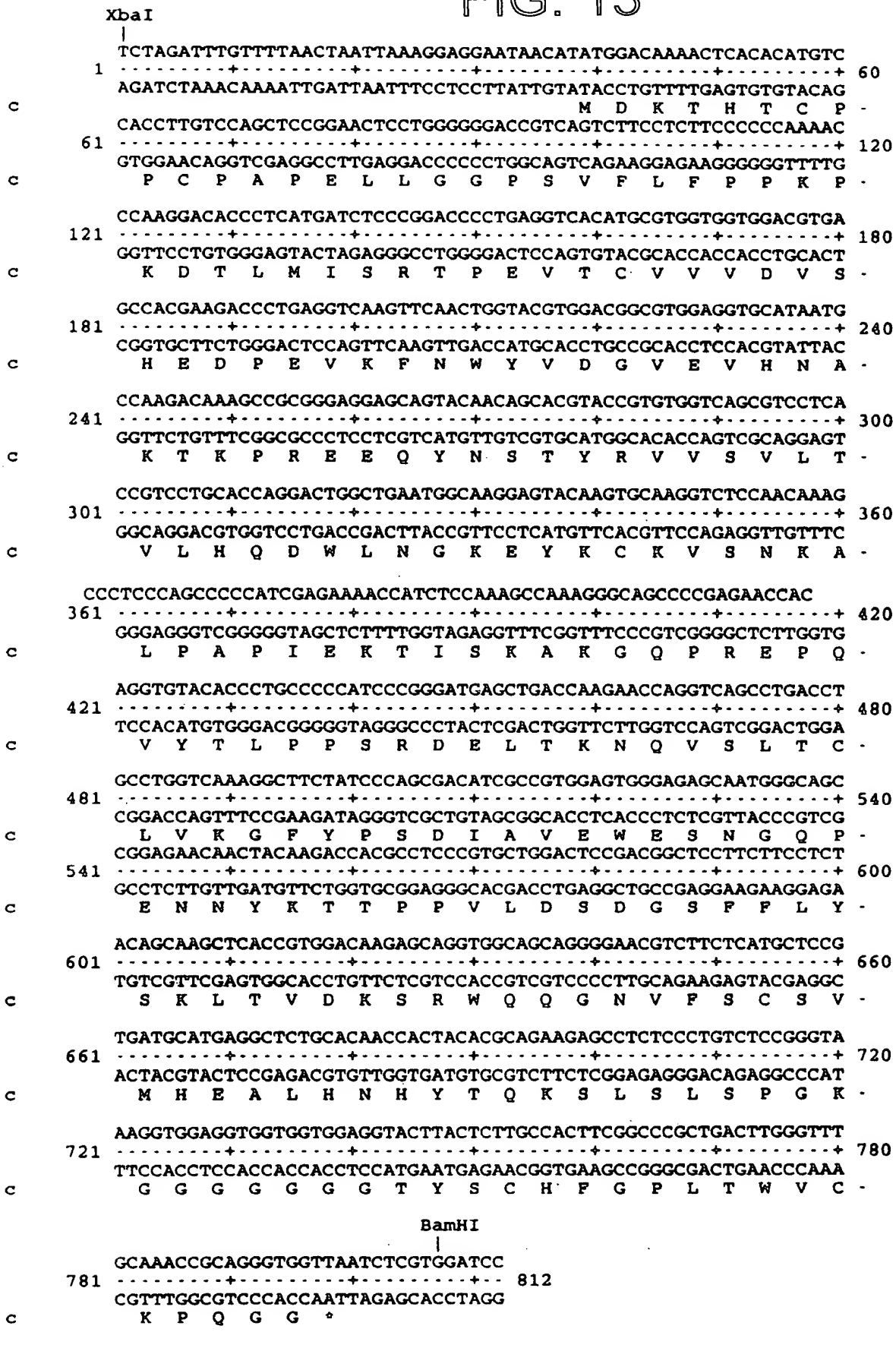


FIG. SUBCLASS DRAFTSMAN

FIG. 14

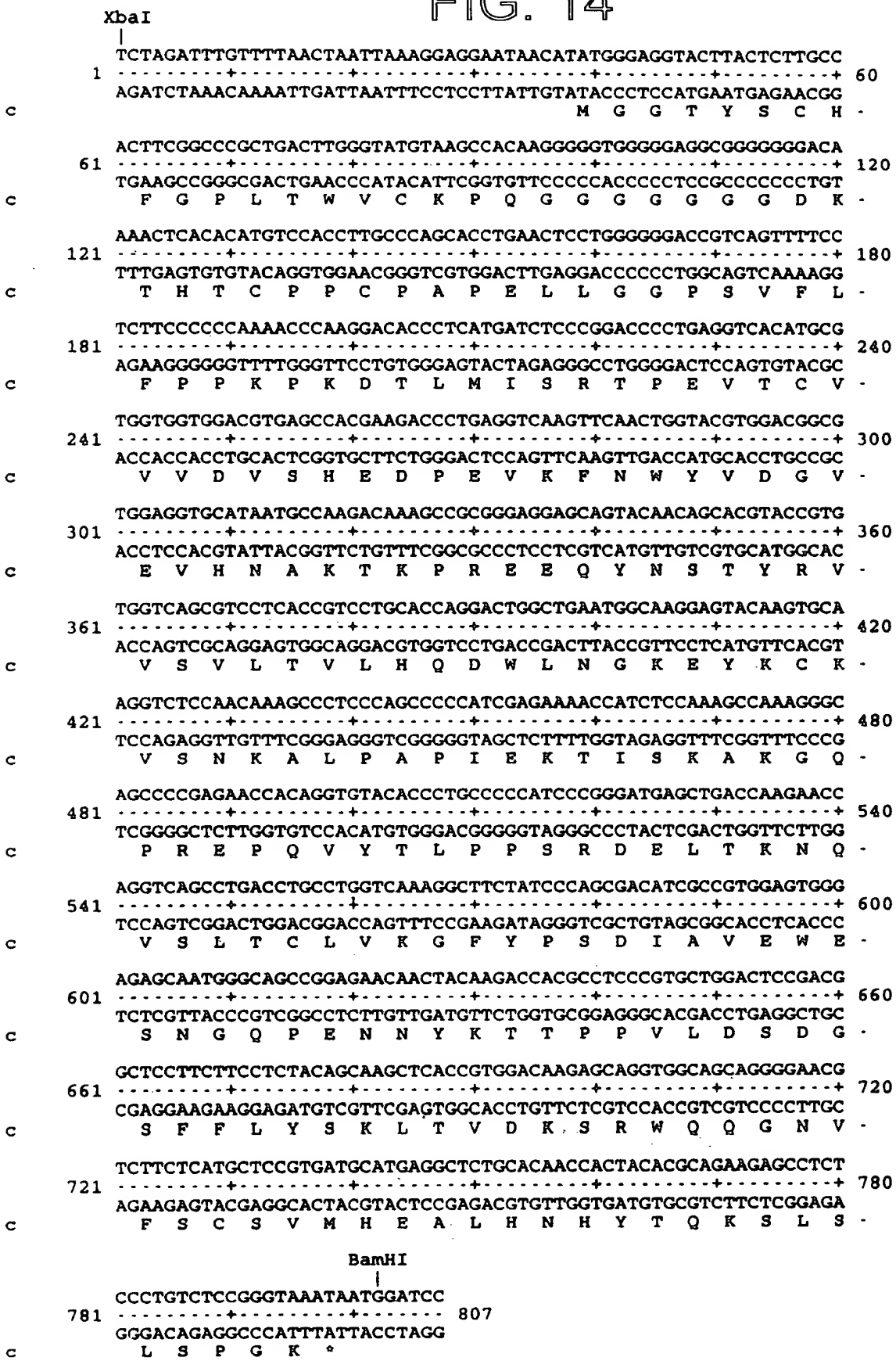
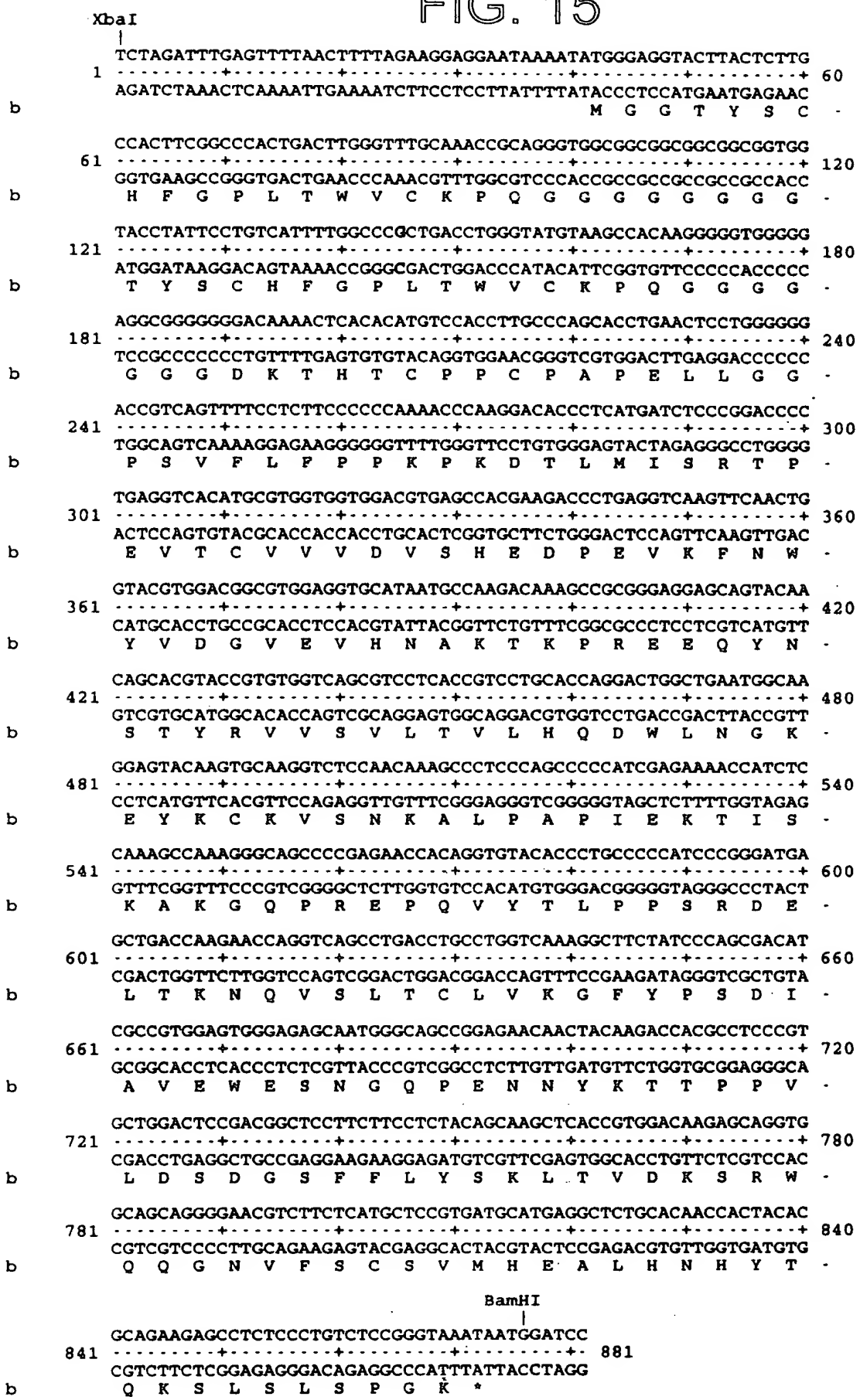


FIG. | CLASS | SUBCLASS | DRAFTSMAN

FIG. 15




```
                                                                  XbaI
                                                                   |
                TCTAGATTTGAGTTTTAACTTTTAGAAGGAGGAATAAAATATGGGAGGTACTTACTCTTG
          1     ---------+---------+---------+---------+---------+---------+  60
                AGATCTAAACTCAAAATTGAAAATCTTCCTCCTTATTTTATACCCTCCATGAATGAGAAC
b                                                        M  G  G  T  Y  S  C  -

                CCACTTCGGCCCACTGACTTGGGTTTGCAAACCGCAGGGTGGCGGCGGCGGCGGCGGTGG
         61     ---------+---------+---------+---------+---------+---------+ 120
                GGTGAAGCCGGGTGACTGAACCCAAACGTTTGGCGTCCCACCGCCGCCGCCGCCGCCACC
b                H  F  G  P  L  T  W  V  C  K  P  Q  G  G  G  G  G  G  G  G  -

                TACCTATTCCTGTCATTTTGGCCCGCTGACCTGGGTATGTAAGCCACAAGGGGGTGGGGG
        121     ---------+---------+---------+---------+---------+---------+ 180
                ATGGATAAGGACAGTAAAACCGGGCGACTGGACCCATACATTCGGTGTTCCCCCACCCCC
b                T  Y  S  C  H  F  G  P  L  T  W  V  C  K  P  Q  G  G  G  G  -

                AGGCGGGGGGGACAAAACTCACACATGTCCACCTTGCCCAGCACCTGAACTCCTGGGGGG
        181     ---------+---------+---------+---------+---------+---------+ 240
                TCCGCCCCCCCTGTTTTGAGTGTGTACAGGTGGAACGGGTCGTGGACTTGAGGACCCCCC
b                G  G  G  D  K  T  H  T  C  P  P  C  P  A  P  E  L  L  G  G  -

                ACCGTCAGTTTTCCTCTTCCCCCCAAAACCCAAGGACACCCTCATGATCTCCCGGACCCC
        241     ---------+---------+---------+---------+---------+---------+ 300
                TGGCAGTCAAAAGGAGAAGGGGGGTTTTGGGTTCCTGTGGGAGTACTAGAGGGCCTGGGG
b                P  S  V  F  L  F  P  P  K  P  K  D  T  L  M  I  S  R  T  P  -

                TGAGGTCACATGCGTGGTGGTGGACGTGAGCCACGAAGACCCTGAGGTCAAGTTCAACTG
        301     ---------+---------+---------+---------+---------+---------+ 360
                ACTCCAGTGTACGCACCACCACCTGCACTCGGTGCTTCTGGGACTCCAGTTCAAGTTGAC
b                E  V  T  C  V  V  V  D  V  S  H  E  D  P  E  V  K  F  N  W  -

                GTACGTGGACGGCGTGGAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTACAA
        361     ---------+---------+---------+---------+---------+---------+ 420
                CATGCACCTGCCGCACCTCCACGTATTACGGTTCTGTTTCGGCGCCCTCCTCGTCATGTT
b                Y  V  D  G  V  E  V  H  N  A  K  T  K  P  R  E  E  Q  Y  N  -

                CAGCACGTACCGTGTGGTCAGCGTCCTCACCGTCCTGCACCAGGACTGGCTGAATGGCAA
        421     ---------+---------+---------+---------+---------+---------+ 480
                GTCGTGCATGGCACACCAGTCGCAGGAGTGGCAGGACGTGGTCCTGACCGACTTACCGTT
b                S  T  Y  R  V  V  S  V  L  T  V  L  H  Q  D  W  L  N  G  K  -

                GGAGTACAAGTGCAAGGTCTCCAACAAAGCCCTCCCAGCCCCCATCGAGAAAACCATCTC
        481     ---------+---------+---------+---------+---------+---------+ 540
                CCTCATGTTCACGTTCCAGAGGTTGTTTCGGGAGGGTCGGGGGTAGCTCTTTTGGTAGAG
b                E  Y  K  C  K  V  S  N  K  A  L  P  A  P  I  E  K  T  I  S  -

                CAAAGCCAAAGGGCAGCCCCGAGAACCACAGGTGTACACCCTGCCCCCATCCCGGGATGA
        541     ---------+---------+---------+---------+---------+---------+ 600
                GTTTCGGTTTCCCGTCGGGGCTCTTGGTGTCCACATGTGGGACGGGGGTAGGGCCCTACT
b                K  A  K  G  Q  P  R  E  P  Q  V  Y  T  L  P  P  S  R  D  E  -

                GCTGACCAAGAACCAGGTCAGCCTGACCTGCCTGGTCAAAGGCTTCTATCCCAGCGACAT
        601     ---------+---------+---------+---------+---------+---------+ 660
                CGACTGGTTCTTGGTCCAGTCGGACTGGACGGACCAGTTTCCGAAGATAGGGTCGCTGTA
b                L  T  K  N  Q  V  S  L  T  C  L  V  K  G  F  Y  P  S  D  I  -

                CGCCGTGGAGTGGGAGAGCAATGGGCAGCCGGAGAACAACTACAAGACCACGCCTCCCGT
        661     ---------+---------+---------+---------+---------+---------+ 720
                GCGGCACCTCACCCTCTCGTTACCCGTCGGCCTCTTGTTGATGTTCTGGTGCGGAGGGCA
b                A  V  E  W  E  S  N  G  Q  P  E  N  N  Y  K  T  T  P  P  V  -

                GCTGGACTCCGACGGCTCCTTCTTCCTCTACAGCAAGCTCACCGTGGACAAGAGCAGGTG
        721     ---------+---------+---------+---------+---------+---------+ 780
                CGACCTGAGGCTGCCGAGGAAGAAGGAGATGTCGTTCGAGTGGCACCTGTTCTCGTCCAC
b                L  D  S  D  G  S  F  F  L  Y  S  K  L  T  V  D  K  S  R  W  -

                GCAGCAGGGGAACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAACCACTACAC
        781     ---------+---------+---------+---------+---------+---------+ 840
                CGTCGTCCCCTTGCAGAAGAGTACGAGGCACTACGTACTCCGAGACGTGTTGGTGATGTG
b                Q  Q  G  N  V  F  S  C  S  V  M  H  E  A  L  H  N  H  Y  T  -

                                                        BamHI
                                                          |
                GCAGAAGAGCCTCTCCCTGTCTCCGGGTAAATAATGGATCC
        841     ---------+---------+---------+---------+-  881
                CGTCTTCTCGGAGAGGGACAGAGGCCCATTTATTACCTAGG
b                Q  K  S  L  S  L  S  P  G  K  *
```

FIG.
SUBCLASS
DRAFTSMAN

FIG. 16

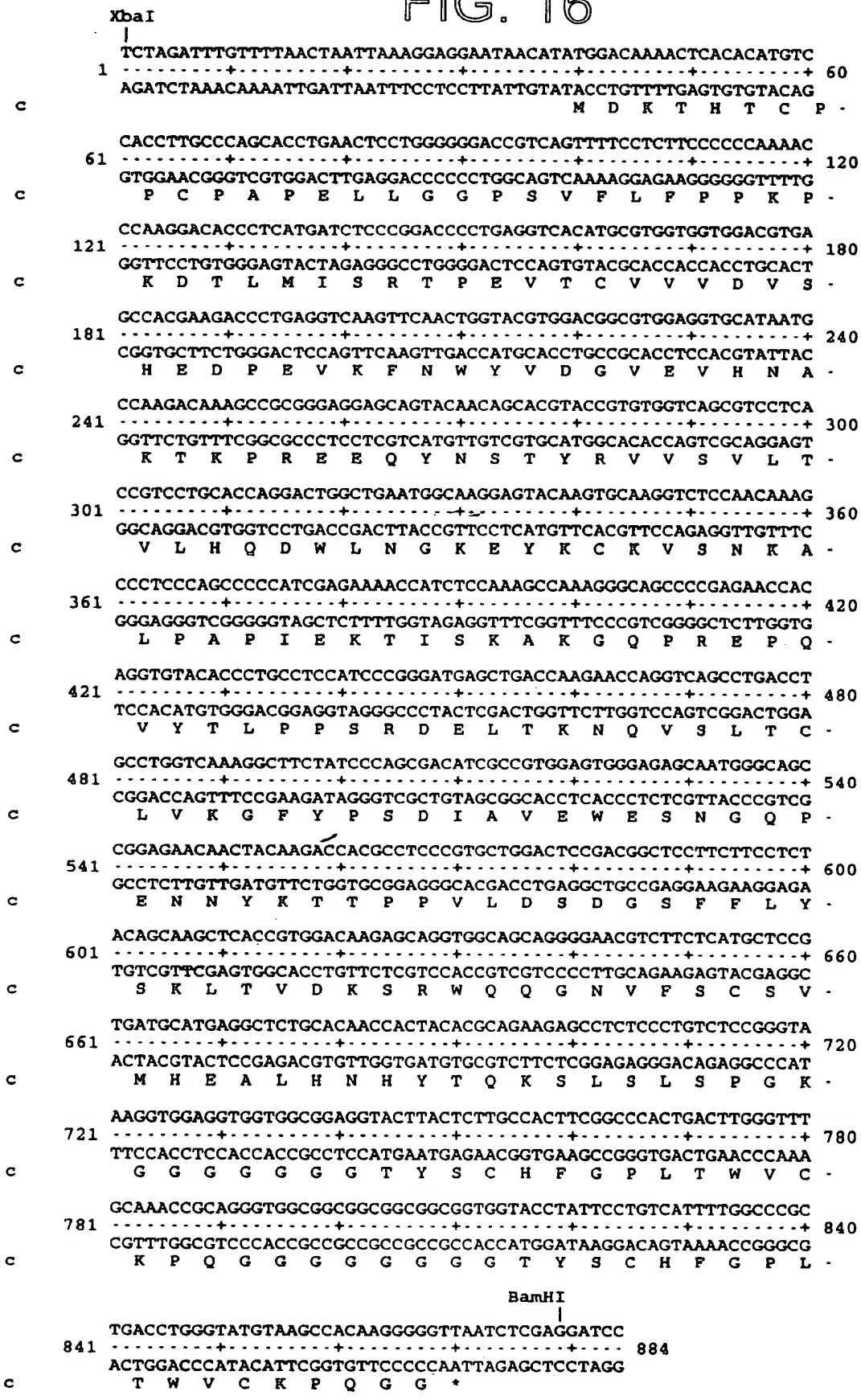


FIG.
SUBCLASS
DRAFTSMAN

FIG. 17A

APP... FIG.
... CLASS SUBCLASS
DRAFTSMAN

FIG. 17B

-ATTGGATTTTTGTCACACTATTATATCGCTTGAAATACAATTGTTTAACATAAGTACCTG-
-TAACCTAAAAACAGTGTGATAATATAGCGAACTTTATGTTAACAAATTGTATTCATGGAC-

-TAGGATCGTACAGGTTTACGCAAGAAAATGGTTTGTTATAGTCGATTAATCGATTTGATT-
-ATCCTAGCATGTCCAAATGCGTTCTTTTACCAAACAATATCAGCTAATTAGCTAAACTAA-

-CTAGATTTGTTTTAACTAATTAAAGGAGGAATAACATATGGTTAACGCGTTGGAATTCGA-
-GATCTAAACAAAATTGATTAATTTCCTCCTTATTGTATACCAATTGCGCAACCTTAAGCT-

SacII
-GCTCACTAGTGTCGACCTGCAGGGTACCATGGAAGCTTACTCGAGGATCCGCGGAAAGAA-
-CGAGTGATCACAGCTGGACGTCCCATGGTACCTTCGAATGAGCTCCTAGGCGCCTTTCTT-

-GAAGAAGAAGAAGAAAGCCCGAAAGGAAGCTGAGTTGGCTGCTGCCACCGCTGAGCAATA-
-CTTCTTCTTCTTCTTTCGGGCTTTCCTTCGACTCAACCGACGACGGTGGCGACTCGTTAT-

-ACTAGCATAACCCCTTGGGGCCTCTAAACGGGTCTTGAGGGGTTTTTTGCTGAAAGGAGG-
-TGATCGTATTGGGGAACCCCGGAGATTTGCCCAGAACTCCCCAAAAAACGACTTTCCTCC-

-AACCGCTCTTCACGCTCTTCACGC 3'
-TTGGCGAGAAGTGCGAGAAGTG 5'

[SacII sticky end]
(position #5904 in pAMG21)

FIG.
CLASS SUBCLASS
DRAFTSMAN

FIG.18A - 1

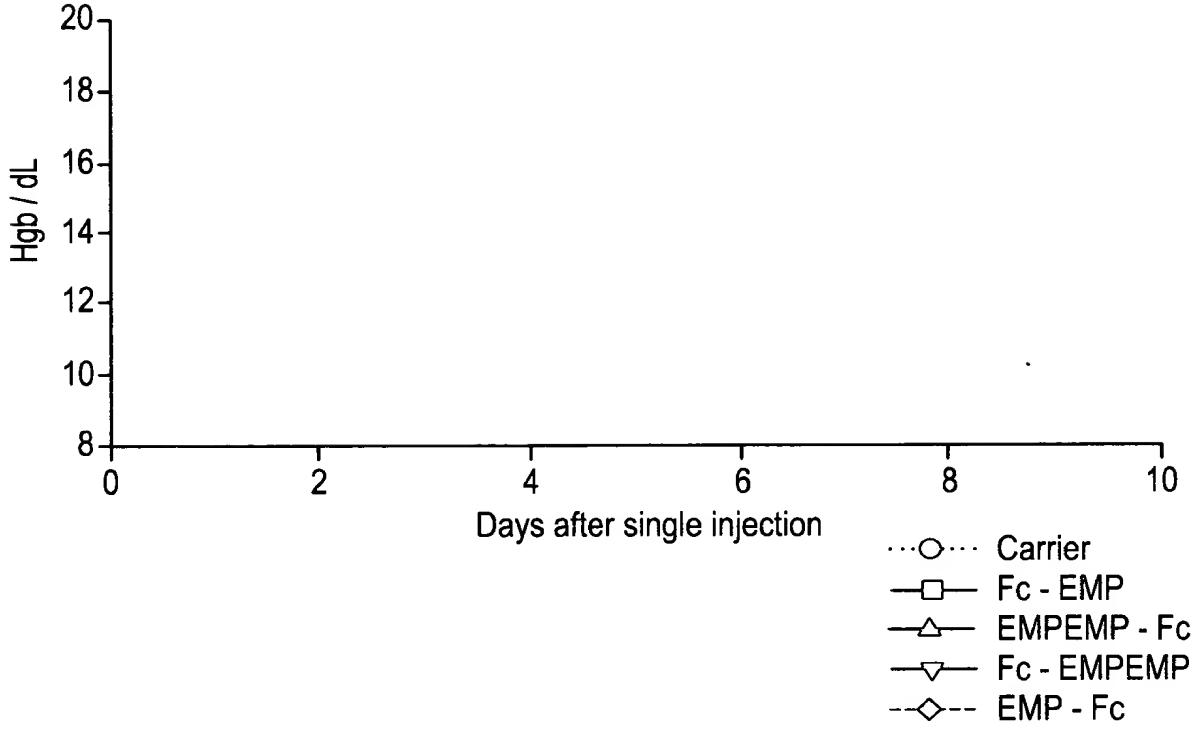
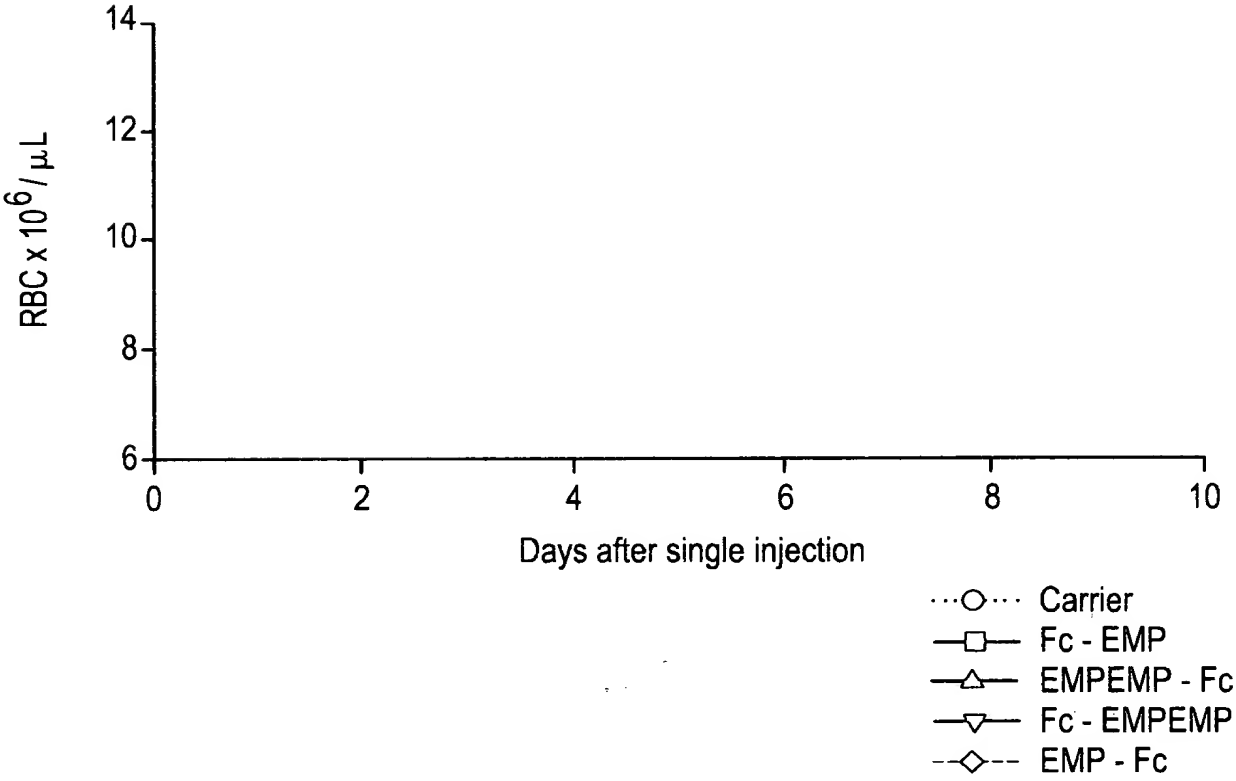


FIG.18A - 2



APPR FIG.
BY CLASS SUBCLASS
DRAFTSMAN

FIG.18A - 3

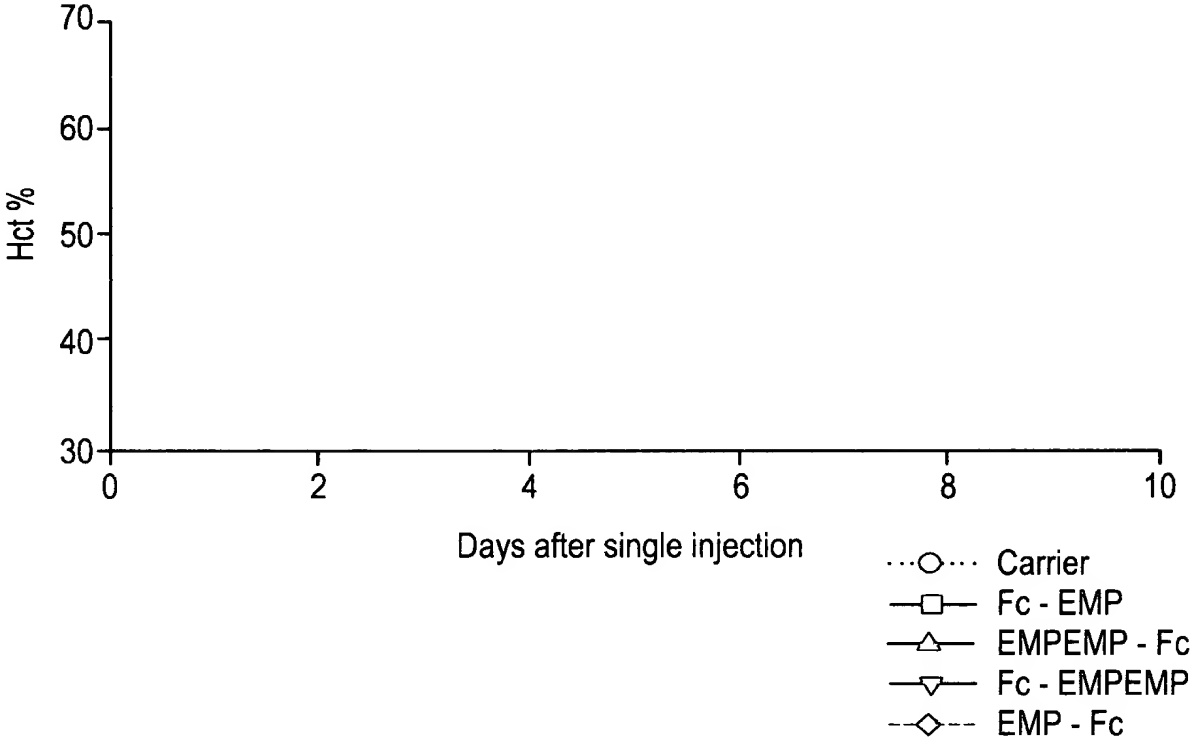
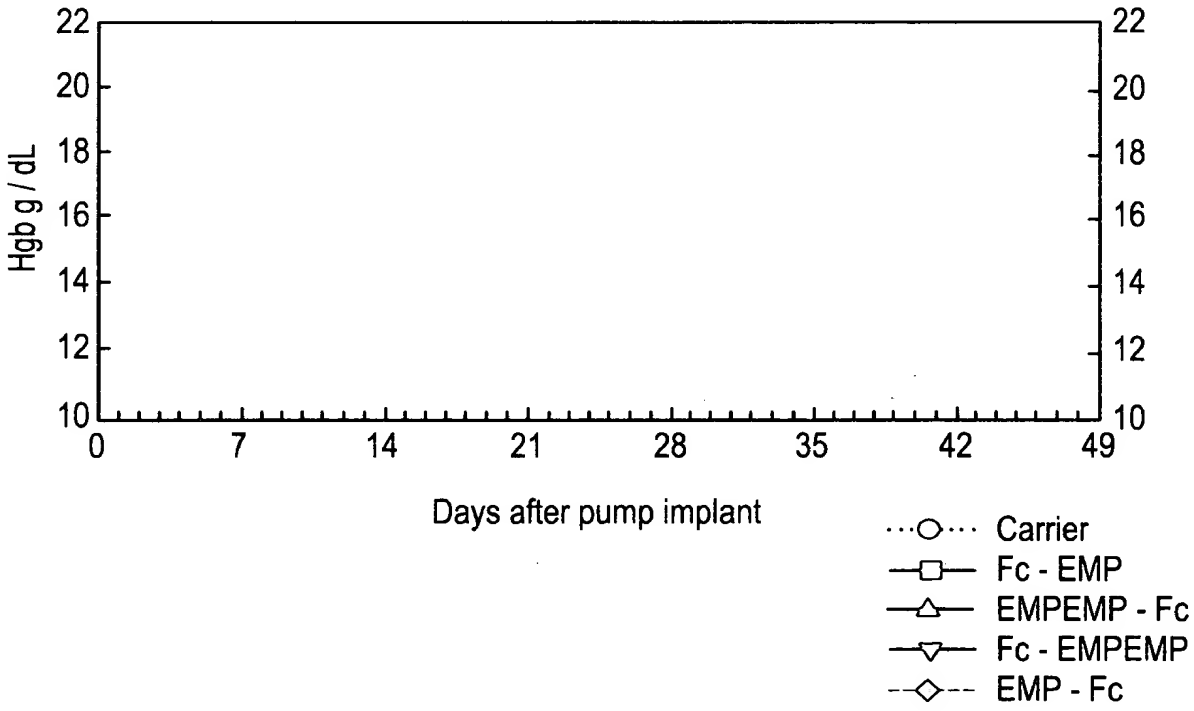


FIG.18B - 1



APPT FIG.
S SUBCLASS
DRAFTS

FIG.18B - 2

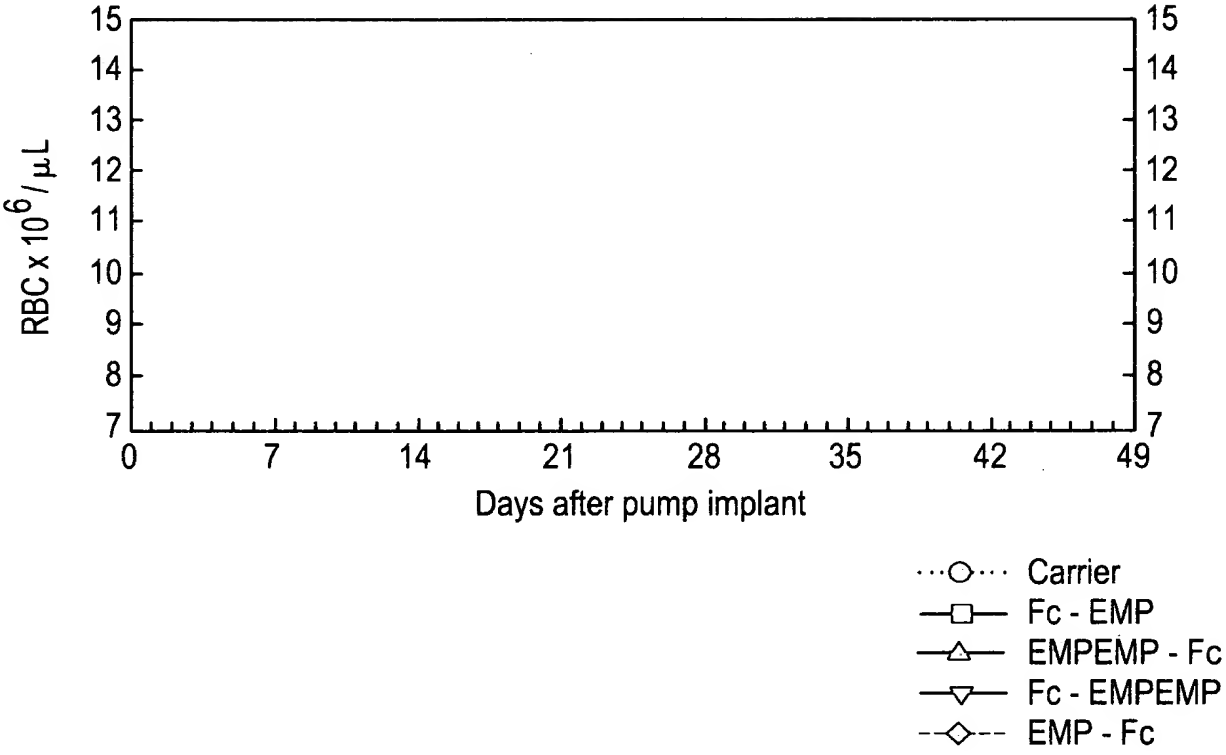


FIG.18B - 3

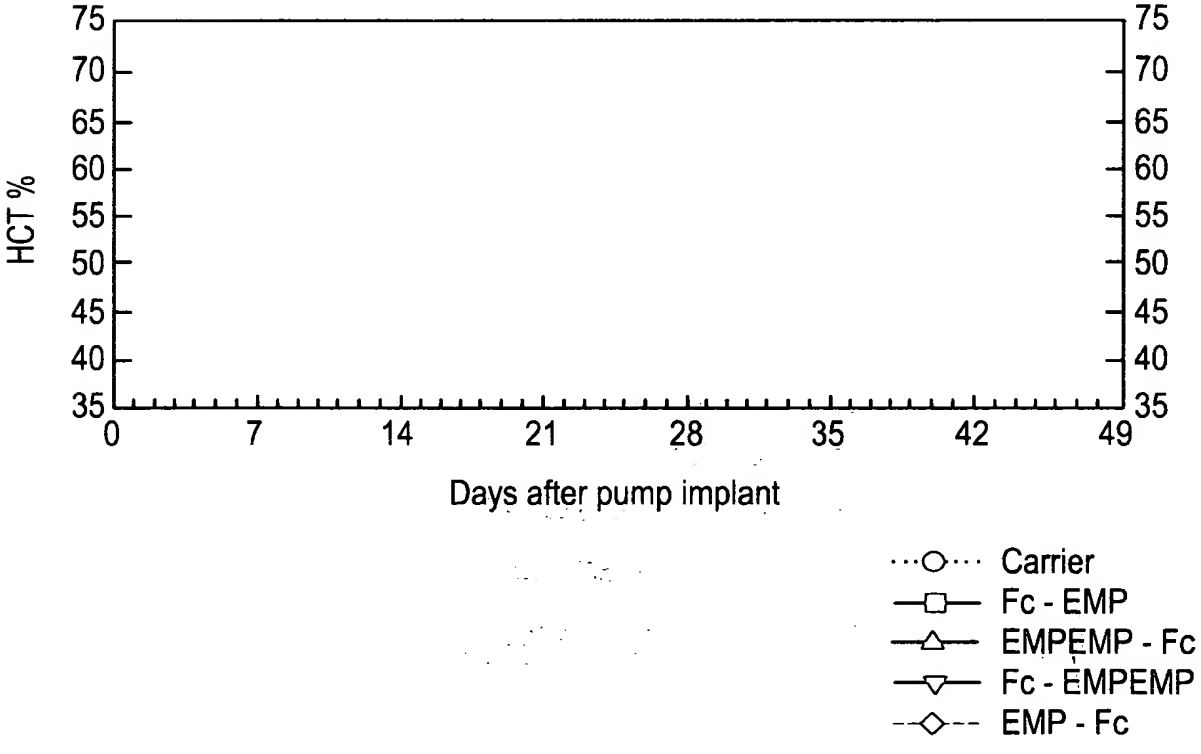


FIG. SUBCLASS DRAFTSMAN

FIG. 19A

```
NdeI
|
CATATGGACAAAACTCACACATGTCCACCTTGTCCAGCTCCGGAACTCCTGGGGGGACCG
1 ---------+---------+---------+---------+---------+---------+ 60
GTATACCTGTTTTGAGTGTGTACAGGTGGAACAGGTCGAGGCCTTGAGGACCCCCCTGGC

a    M  D  K  T  H  T  C  P  P  C  P  A  P  E  L  L  G  G  P  -

TCAGTCTTCCTCTTCCCCCCAAAACCCAAGGACACCCTCATGATCTCCCGGACCCCTGAG
61 ---------+---------+---------+---------+---------+---------+ 120
AGTCAGAAGGAGAAGGGGGGTTTTGGGTTCCTGTGGGAGTACTAGAGGGCCTGGGGACTC

a    S  V  F  L  F  P  P  K  P  K  D  T  L  M  I  S  R  T  P  E  -

GTCACATGCGTGGTGGTGGACGTGAGCCACGAAGACCCTGAGGTCAAGTTCAACTGGTAC
121 ---------+---------+---------+---------+---------+---------+ 180
CAGTGTACGCACCACCACCTGCACTCGGTGCTTCTGGGACTCCAGTTCAAGTTGACCATG

a    V  T  C  V  V  V  D  V  S  H  E  D  P  E  V  K  F  N  W  Y  -

GTGGACGGCGTGGAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTACAACAGC
181 ---------+---------+---------+---------+---------+---------+ 240
CACCTGCCGCACCTCCACGTATTACGGTTCTGTTTCGGCGCCCTCCTCGTCATGTTGTCG

a    V  D  G  V  E  V  H  N  A  K  T  K  P  R  E  E  Q  Y  N  S  -

ACGTACCGTGTGGTCAGCGTCCTCACCGTCCTGCACCAGGACTGGCTGAATGGCAAGGAG
241 ---------+---------+---------+---------+---------+---------+ 300
TGCATGGCACACCAGTCGCAGGAGTGGCAGGACGTGGTCCTGACCGACTTACCGTTCCTC

a    T  Y  R  V  V  S  V  L  T  V  L  H  Q  D  W  L  N  G  K  E  -

TACAAGTGCAAGGTCTCCAACAAAGCCCTCCCAGCCCCCATCGAGAAAACCATCTCCAAA
301 ---------+---------+---------+---------+---------+---------+ 360
ATGTTCACGTTCCAGAGGTTGTTTCGGGAGGGTCGGGGGTAGCTCTTTTGGTAGAGGTTT

a    Y  K  C  K  V  S  N  K  A  L  P  A  P  I  E  K  T  I  S  K  -

GCCAAAGGGCAGCCCCGAGAACCACAGGTGTACACCCTGCCCCCATCCCGGGATGAGCTG
361 ---------+---------+---------+---------+---------+---------+ 420
CGGTTTCCCGTCGGGGCTCTTGGTGTCCACATGTGGGACGGGGGTAGGGCCCTACTCGAC

a    A  K  G  Q  P  R  E  P  Q  V  Y  T  L  P  P  S  R  D  E  L  -

ACCAAGAACCAGGTCAGCCTGACCTGCCTGGTCAAAGGCTTCTATCCCAGCGACATCGCC
421 ---------+---------+---------+---------+---------+---------+ 480
TGGTTCTTGGTCCAGTCGGACTGGACGGACCAGTTTCCGAAGATAGGGTCGCTGTAGCGG

a    T  K  N  Q  V  S  L  T  C  L  V  K  G  F  Y  P  S  D  I  A  -

GTGGAGTGGGAGAGCAATGGGCAGCCGGAGAACAACTACAAGACCACGCCTCCCGTGCTG
481 ---------+---------+---------+---------+---------+---------+ 540
CACCTCACCCTCTCGTTACCCGTCGGCCTCTTGTTGATGTTCTGGTGCGGAGGGCACGAC

a    V  E  W  E  S  N  G  Q  P  E  N  N  Y  K  T  T  P  P  V  L  -

GACTCCGACGGCTCCTTCTTCCTCTACAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAG
541 ---------+---------+---------+---------+---------+---------+ 600
CTGAGGCTGCCGAGGAAGAAGGAGATGTCGTTCGAGTGGCACCTGTTCTCGTCCACCGTC

a    D  S  D  G  S  F  F  L  Y  S  K  L  T  V  D  K  S  R  W  Q  -
```

FIG.
CLASS SUBCLASS
DRAFTSM

FIG. 19B

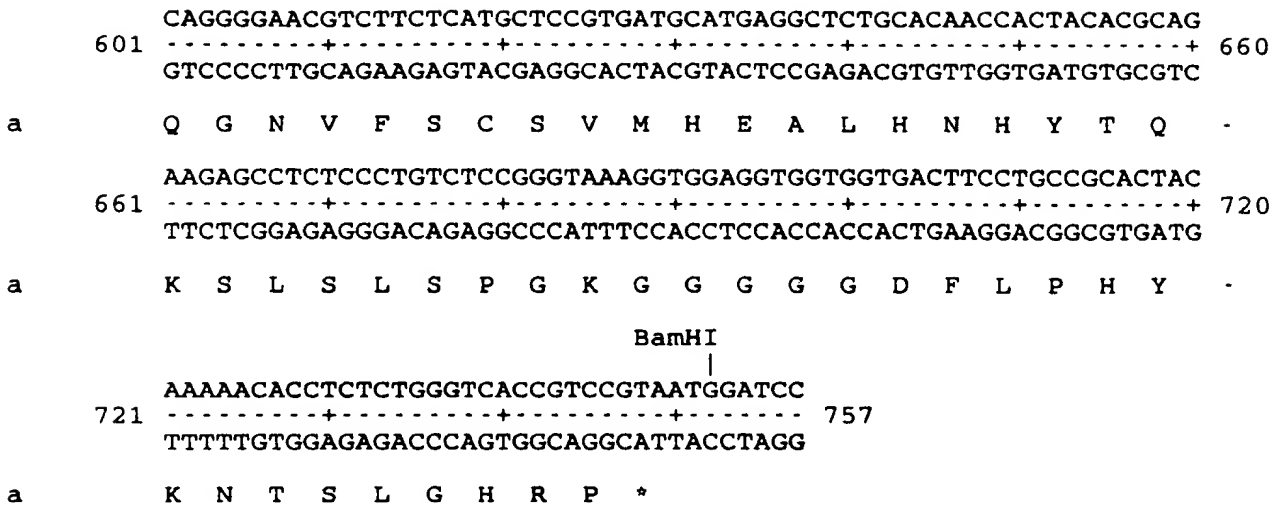


FIG. | CLASS | SUBCLASS | DRAFTSMAN

FIG. 20A

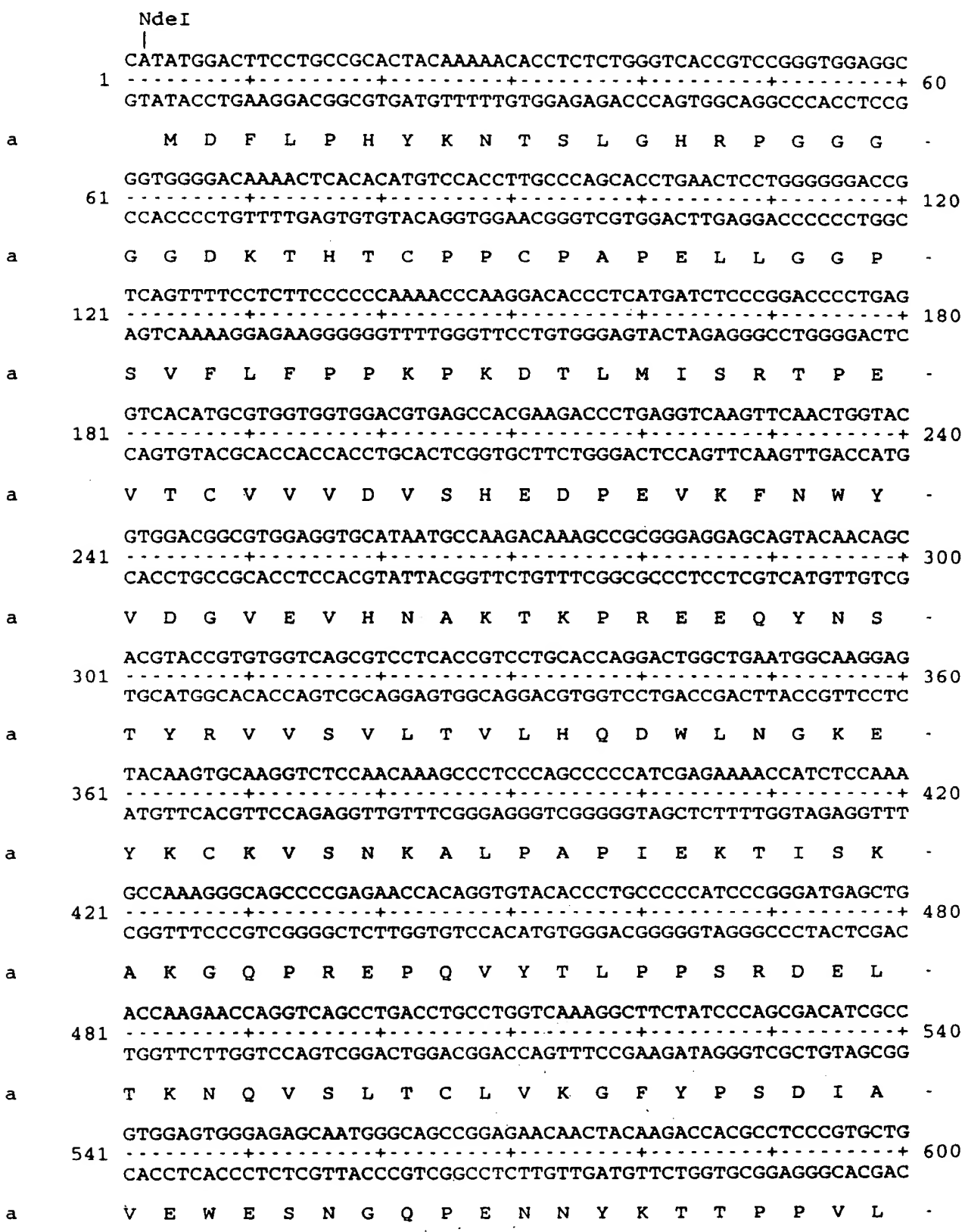
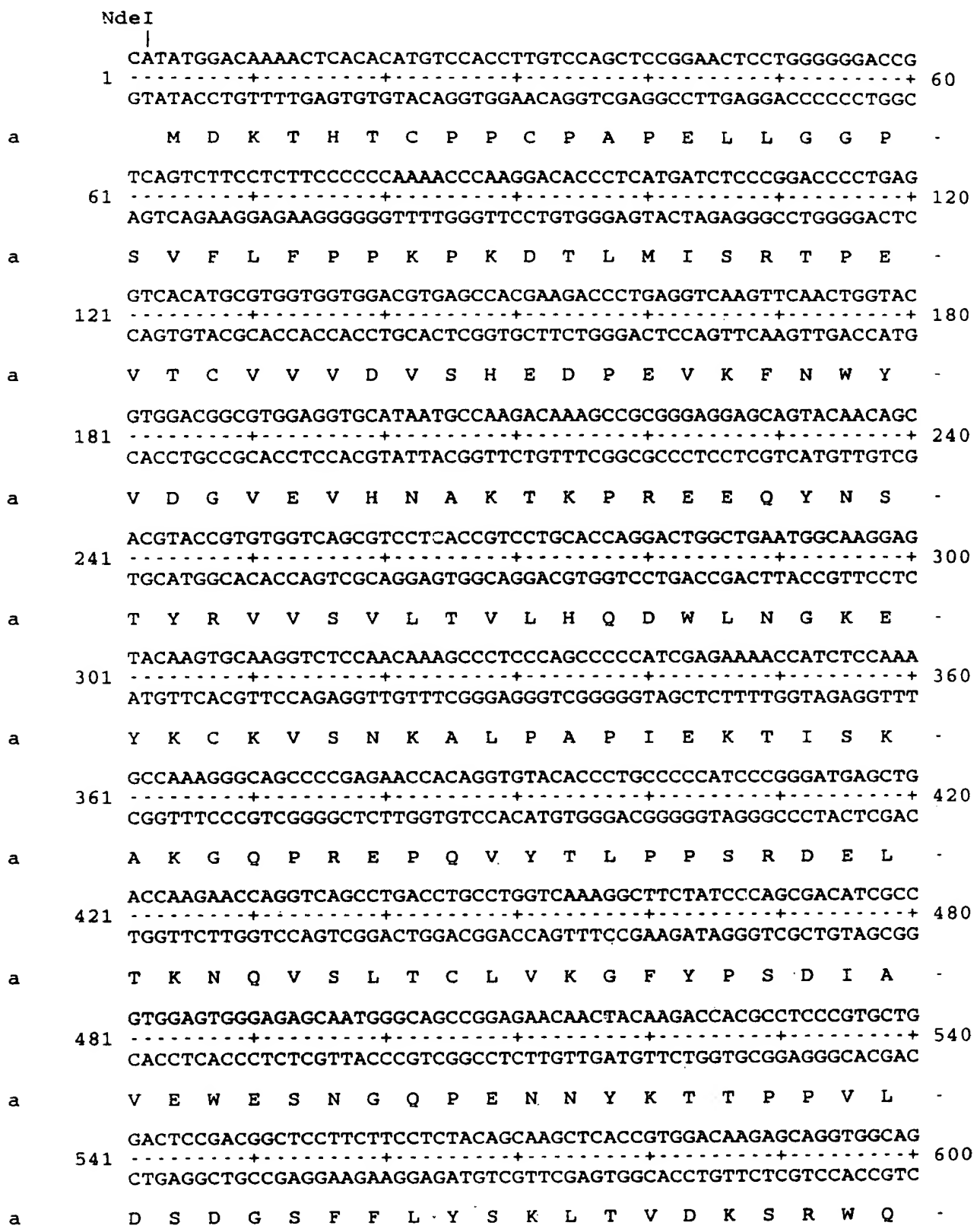


FIG.
SUBCLASS
DRAFTSMAN

FIG. 20B

FIG. SUBCLASS DRAFTSMAN

FIG. 21A



APP... FIG.
... CLASS | SUBCLASS
DRAFTSM...

FIG. 21B

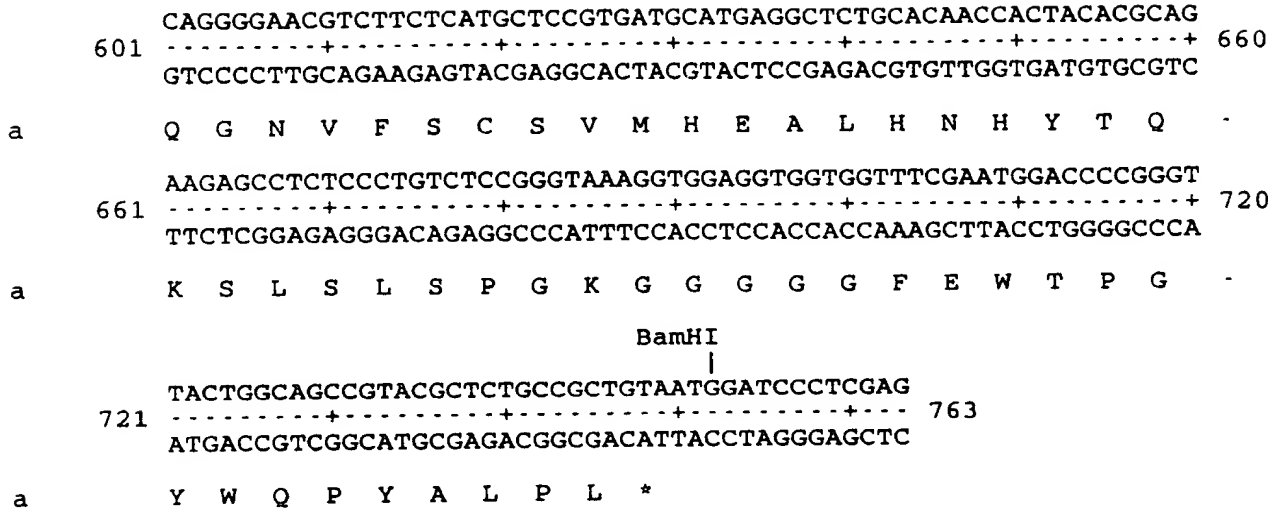
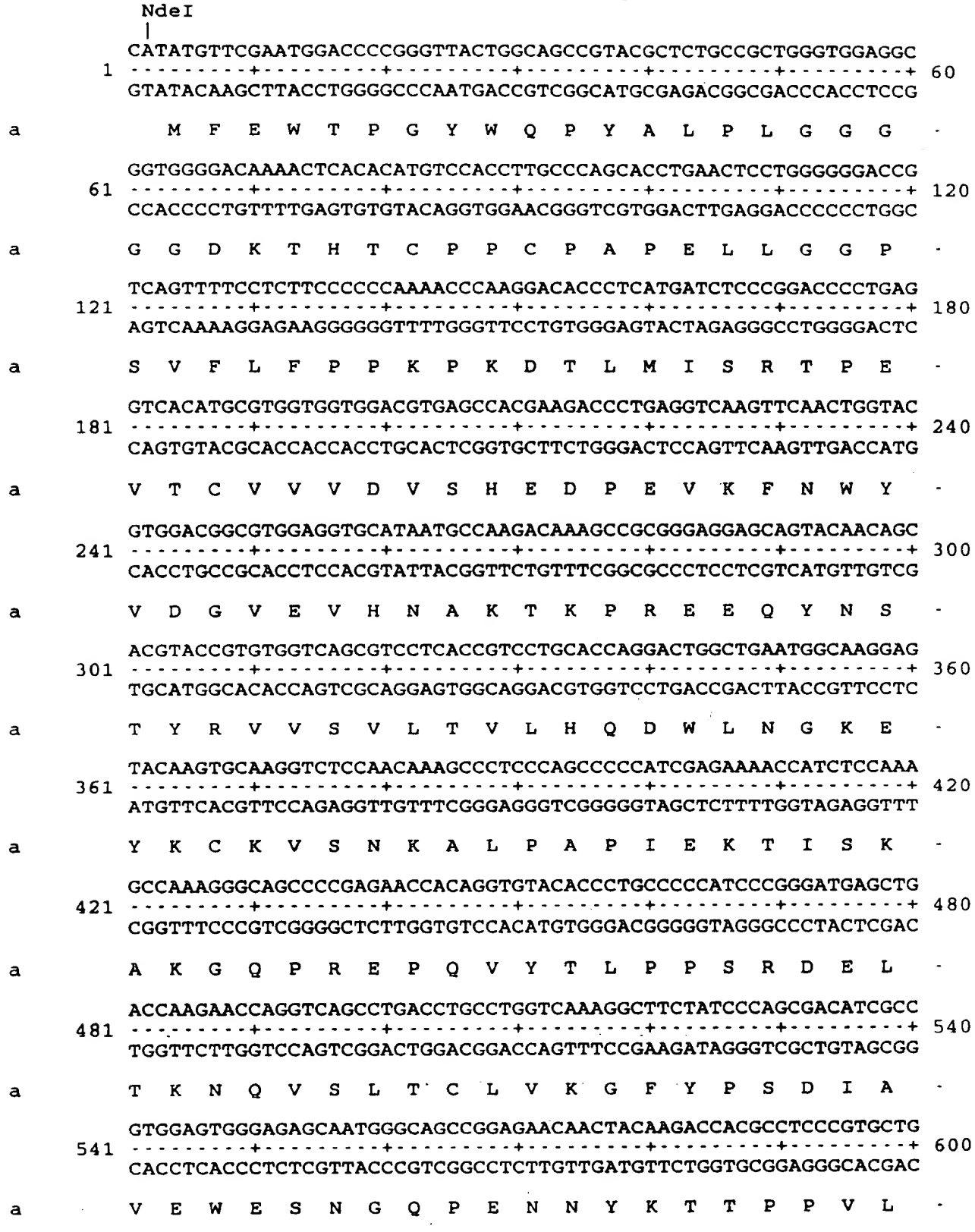


FIG. CLASS SUBCLASS DRAFTSMAN

FIG. 22A



APP... FIG.
... SUBCLASS
DRAFTSM...

FIG. 22B

```
          GACTCCGACGGCTCCTTCTTCCTCTACAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAG
      601 ---------+---------+---------+---------+---------+---------+ 660
          CTGAGGCTGCCGAGGAAGAAGGAGATGTCGTTCGAGTGGCACCTGTTCTCGTCCACCGTC

a             D   S   D   G   S   F   F   L   Y   S   K   L   T   V   D   K   S   R   W   Q   -

          CAGGGGAACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAACCACTACACGCAG
      661 ---------+---------+---------+---------+---------+---------+ 720
          GTCCCCTTGCAGAAGAGTACGAGGCACTACGTACTCCGAGACGTGTTGGTGATGTGCGTC

a             Q   G   N   V   F   S   C   S   V   M   H   E   A   L   H   N   H   Y   T   Q   -

                                                BamHI
                                                  |
          AAGAGCCTCTCCCTGTCTCCGGGTAAATAATGGATCC
      721 ---------+---------+---------+------- 757
          TTCTCGGAGAGGGACAGAGGCCCATTTATTACCTAGG

a             K   S   L   S   L   S   P   G   K   *
```

FIG. CLASS SUBCLASS DRAFTSMAN

FIG. 23A

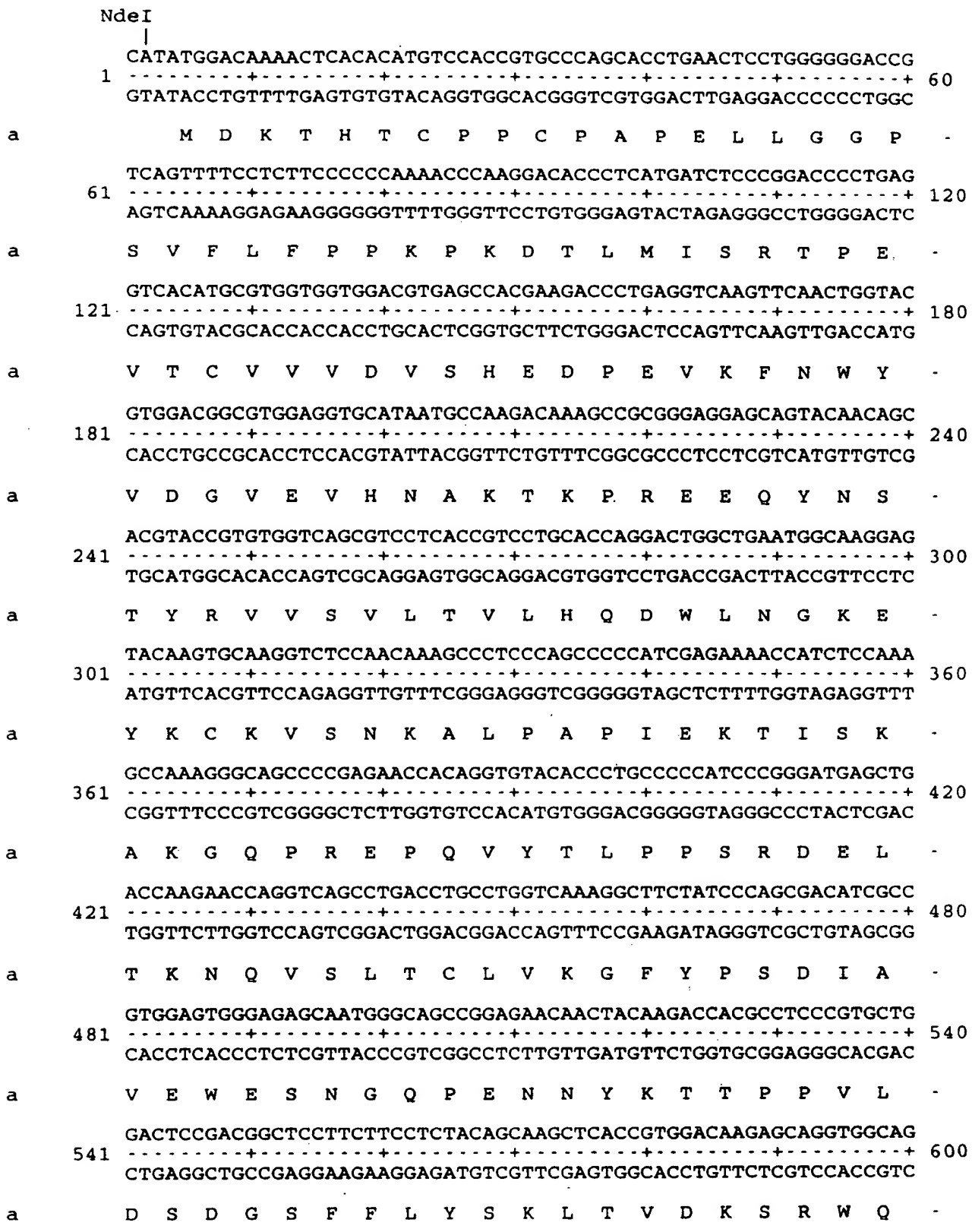


FIG.
SUBCLASS
DRAFTSMAN

FIG. 23B

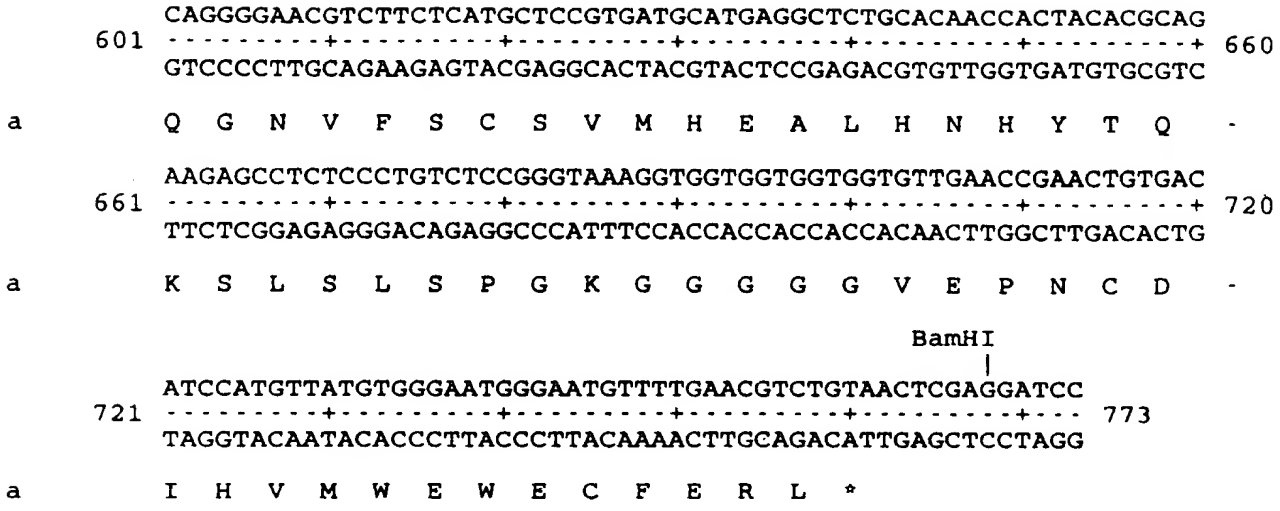
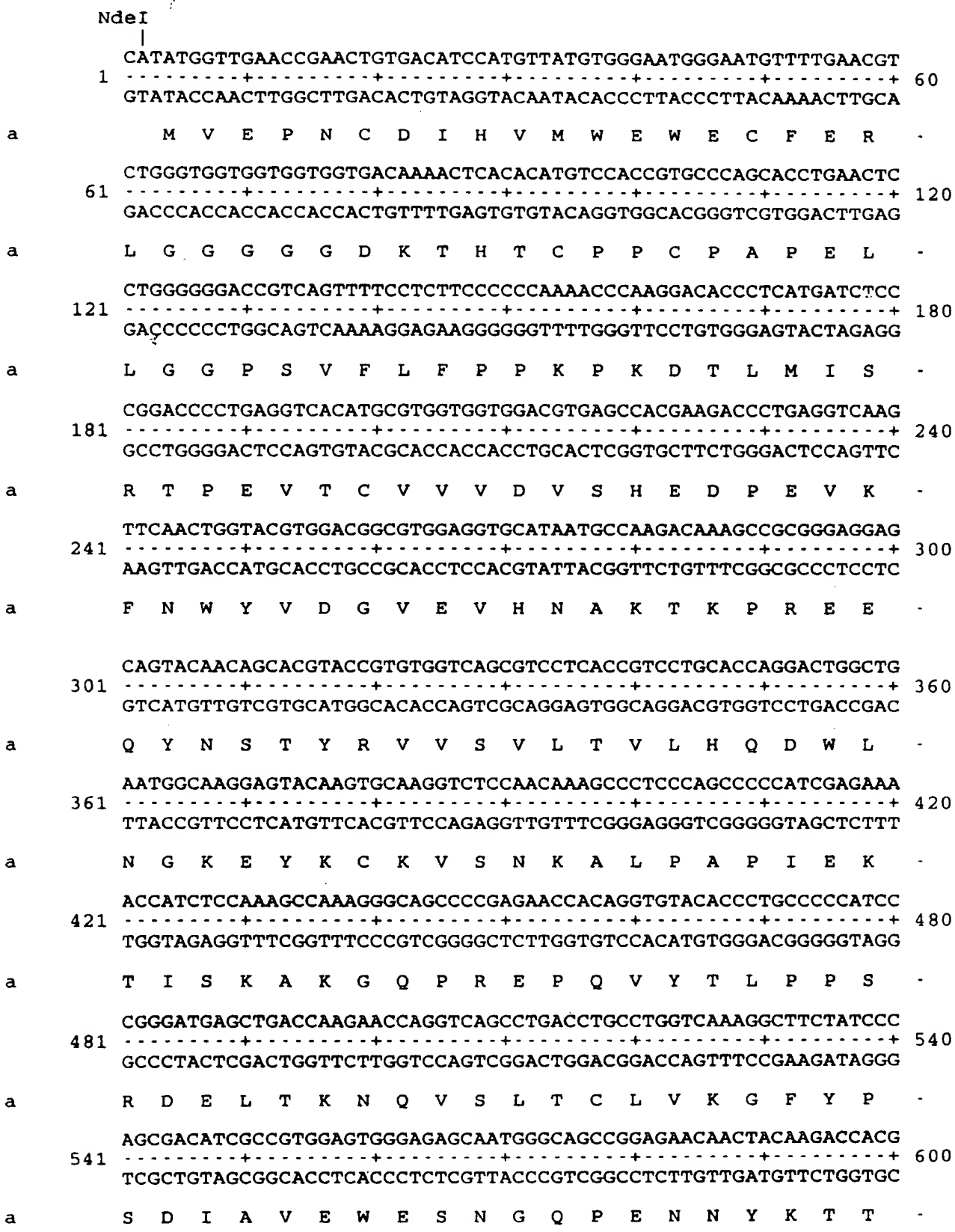


FIG. SUBCLASS

FIG. 24A



ART UNIT | FIG. | SUBCLASS | DRAFTSMAN

FIG. 24B

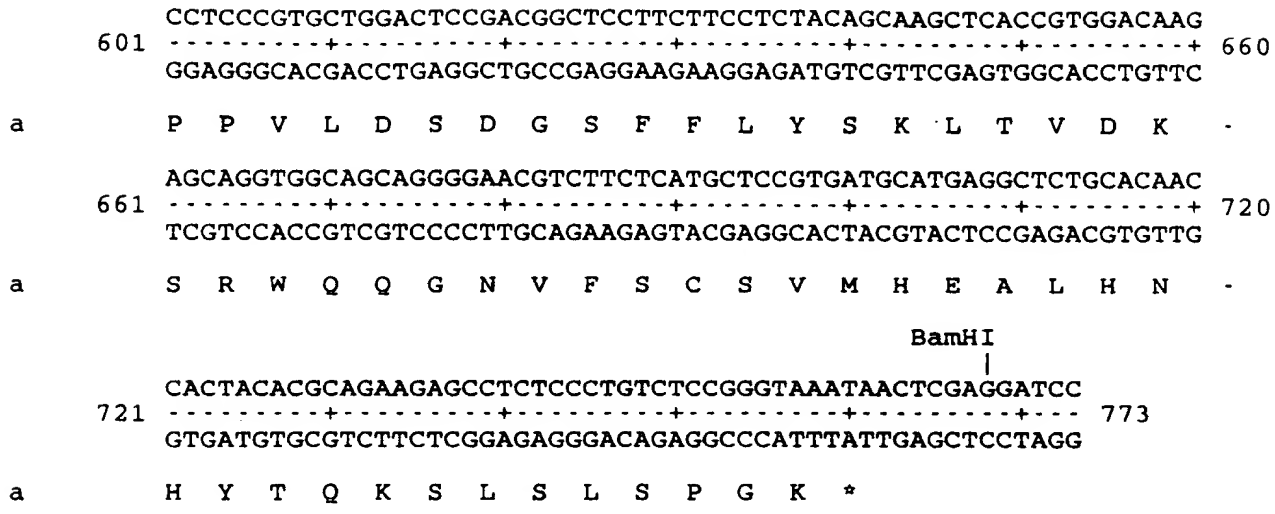


FIG. SUBCLASS DRAFTS

FIG. 25A

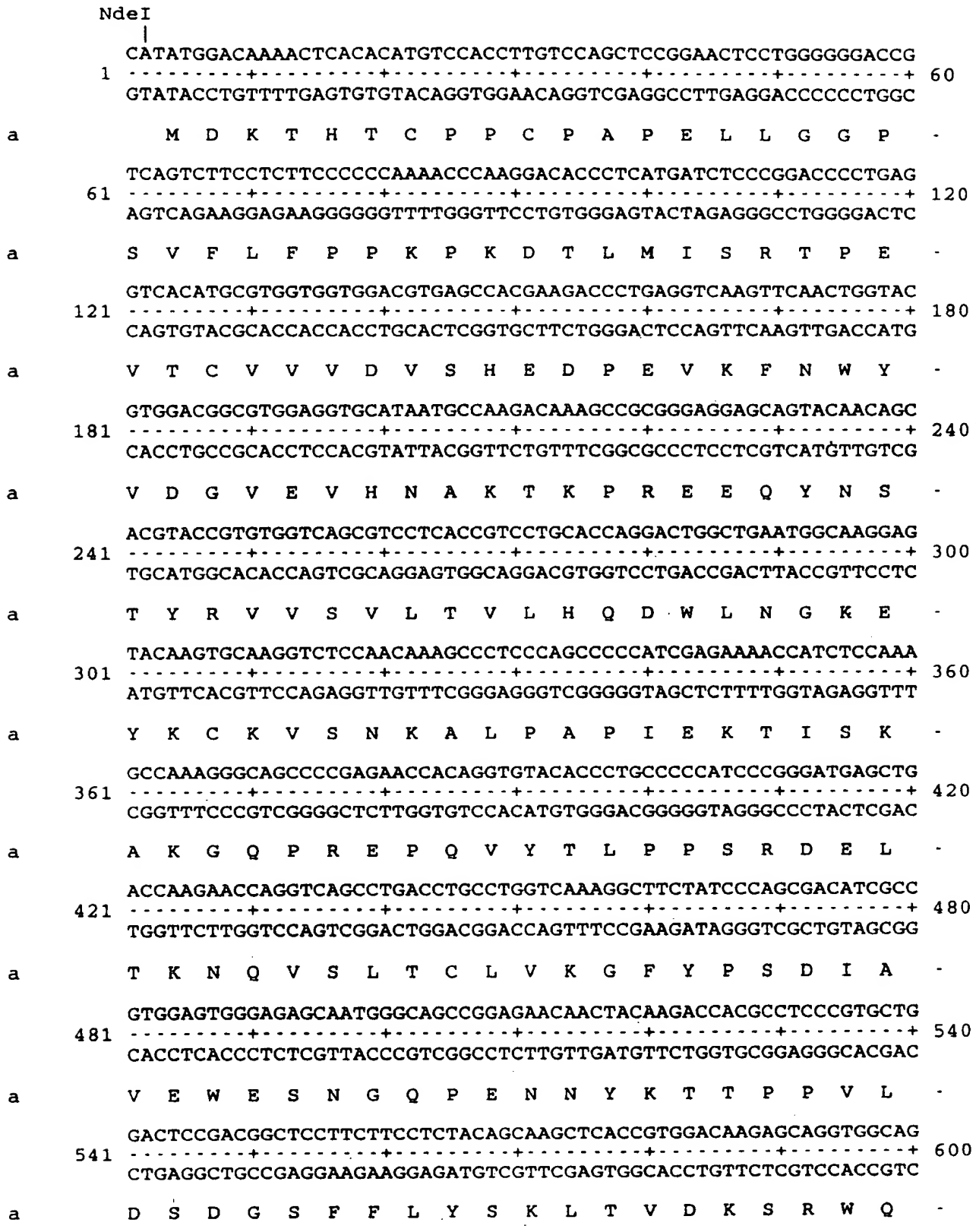


FIG.
CLASS | SUBCLASS

FIG. 25B

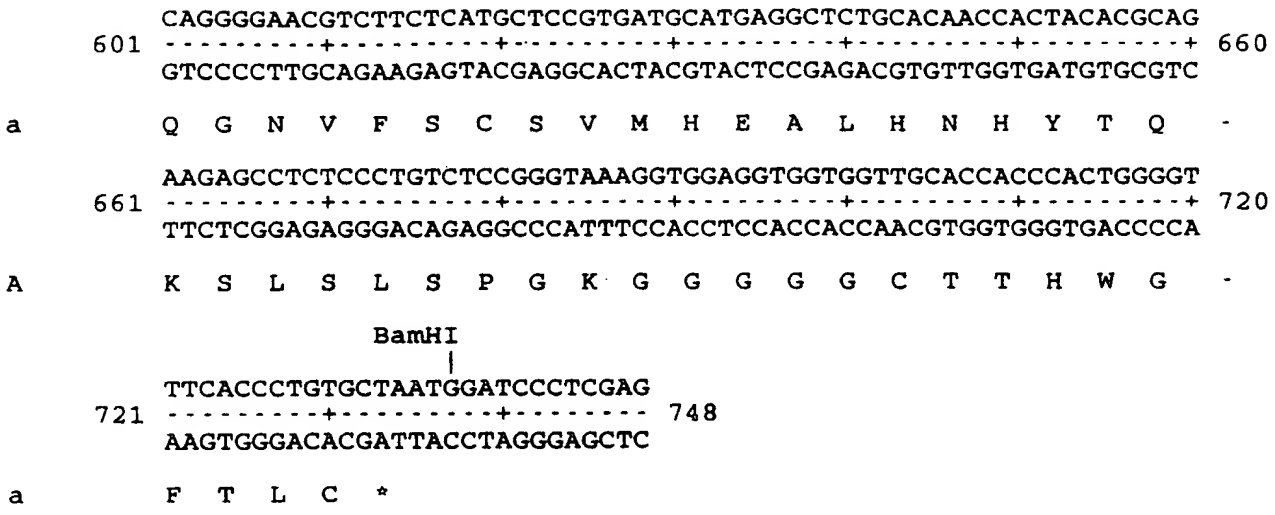


FIG. SUBCLASS DRAFTS

FIG. 26A

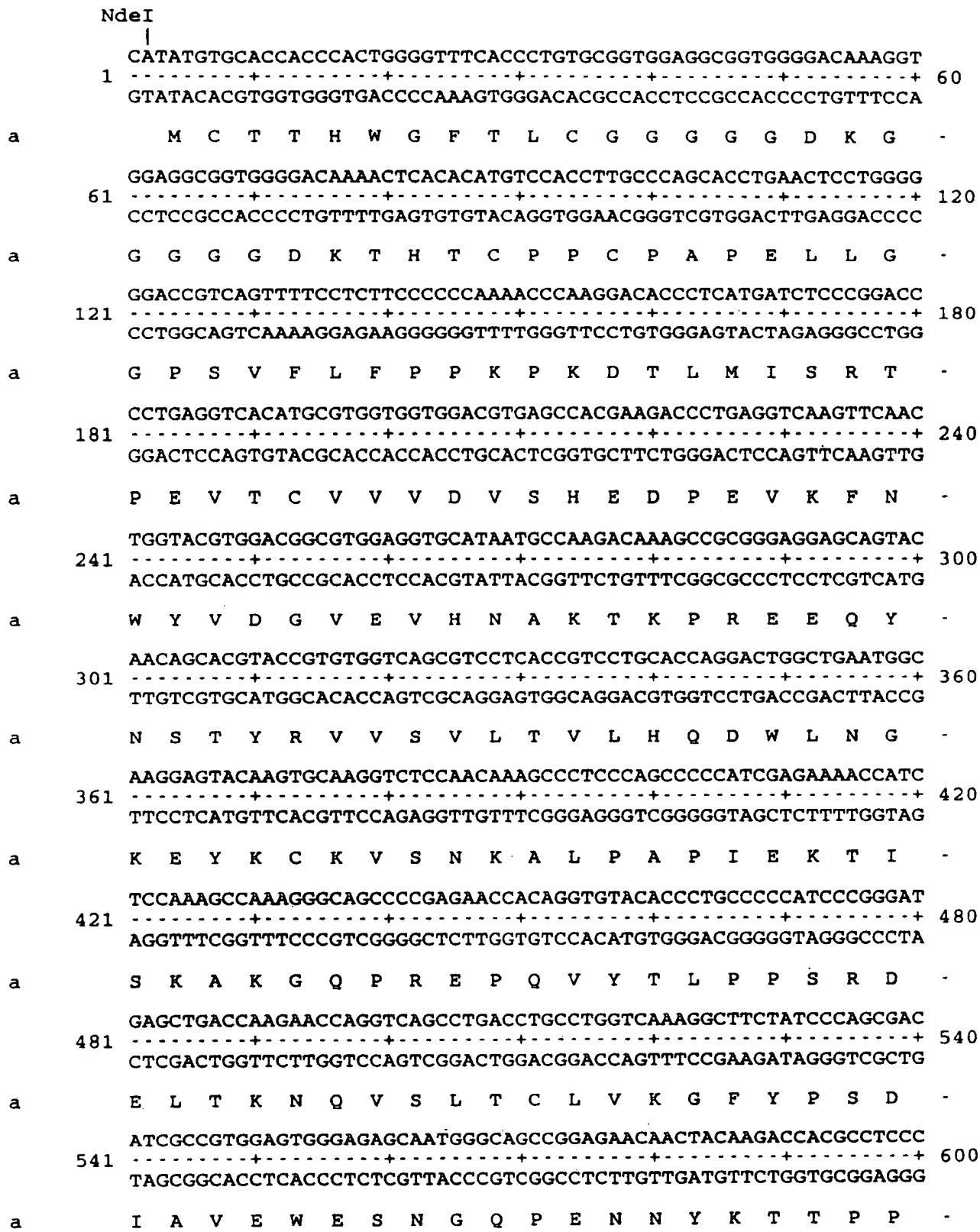


FIG.
CLASS SUBCLASS
DRAFTSM

FIG. 26B

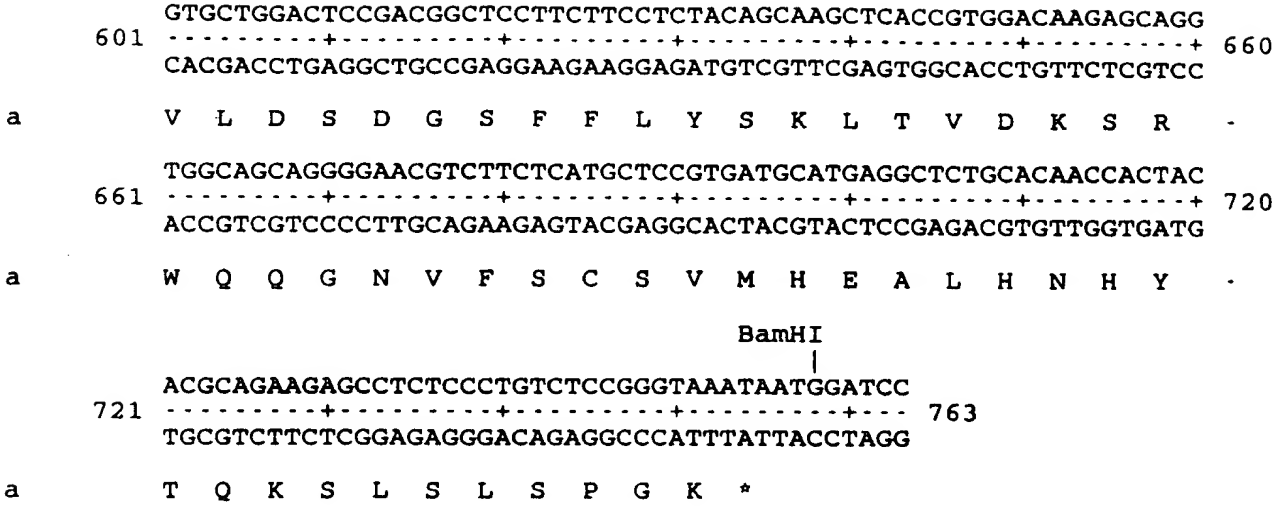


FIG. 2A

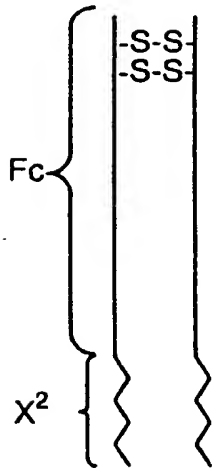


FIG. 2B

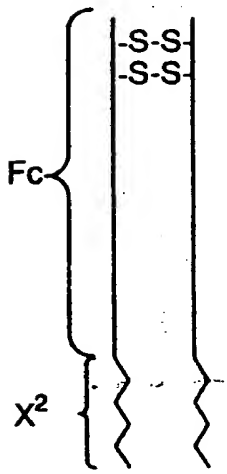


FIG. 2C

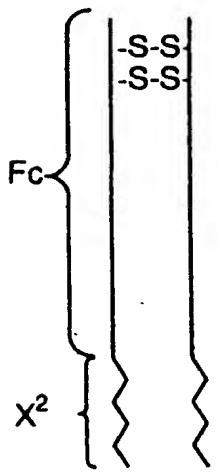


FIG. 2D

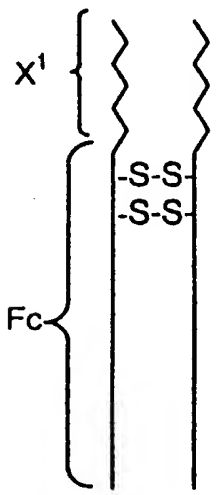


FIG. 2E

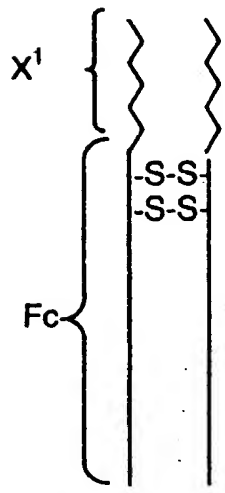
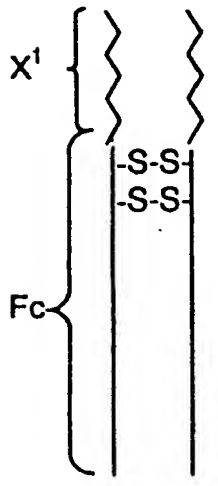



FIG. 2F